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EASTERN GULF OF MEXICO. EXPERIMENT 3, MAY  
1972. PART 1: SURFACE AND ANCILLARY  
MEASUREMENTS (NASA) 102 p

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### REMOTE SENSING STUDY EASTERN GULF OF MEXICO

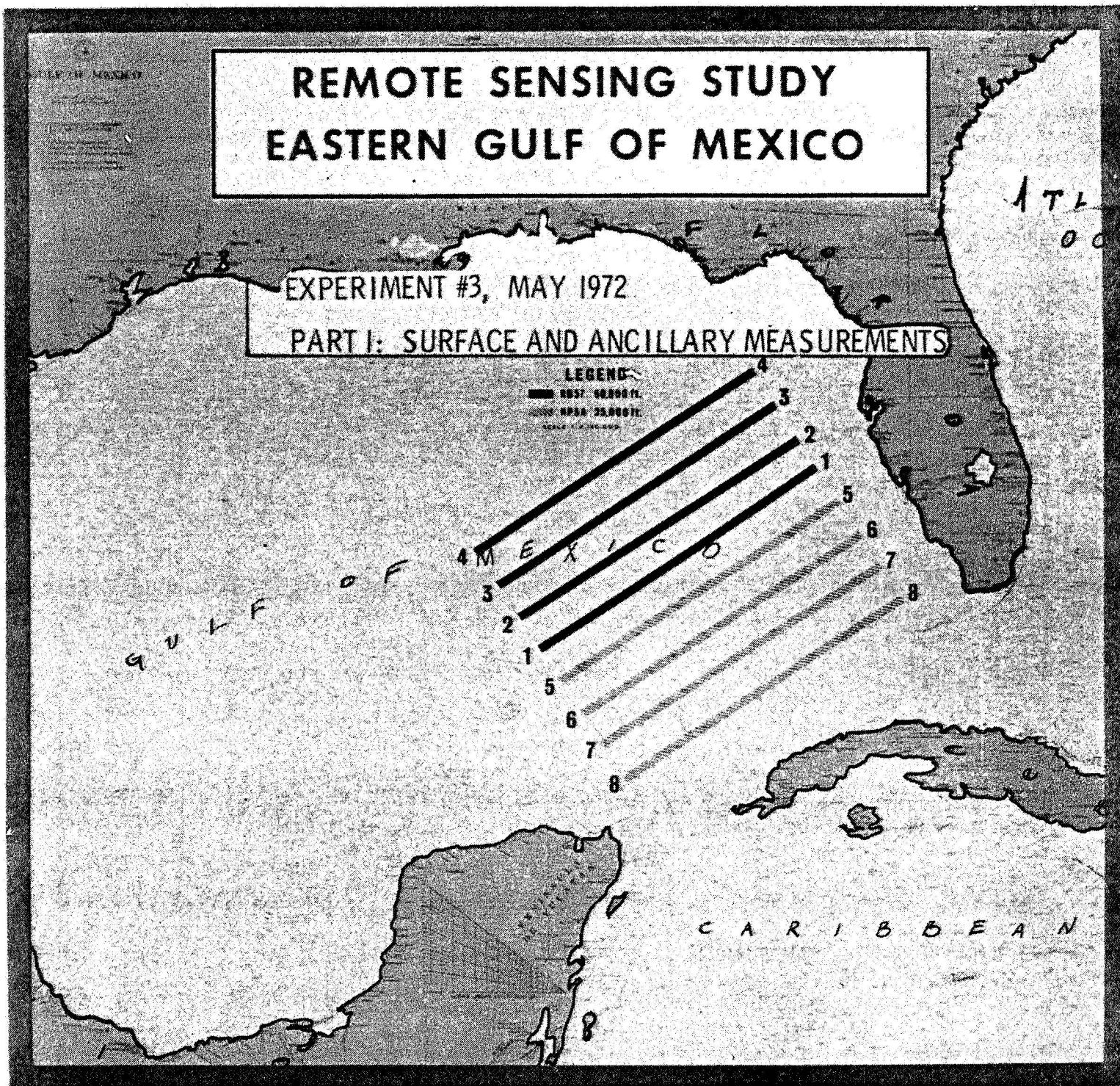
EXPERIMENT #3, MAY 1972

PART I: SURFACE AND ANCILLARY MEASUREMENTS

#### LEGEND

— SURFACE MEASUREMENTS  
--- ANCILLARY MEASUREMENTS

SCALE 1:100,000



**EASTERN GULF OF MEXICO REMOTE SENSING STUDY**

**EXPERIMENT NO. 3, MAY 1972**

**PART I: SURFACE MEASUREMENTS**

**Dr. Robert D. Boudreau  
Principal Investigator**

**July 1972**

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## ACKNOWLEDGMENTS

The following persons, all of the Lockheed Electronics Company, have contributed to this report. Mr. Jerry Brashier was responsible for the compilation and editing of the data presented here. Mr. Barney Congdon prepared the cover and flight line map. Mr. Gary D. Stover prepared the boat station maps. Mr. James Halbach assembled the meteorological maps and data. Mr. William L. Beacht did the computer processing of the shipboard observations. Mrs. Monty Whitfield typed the manuscript. The shipboard measurements were made by the following observers:

<u>Boat</u>	<u>Observers</u>
Big Fisherman	T. R. Lemon and T. J. Rafferty
Explorer II	L. R. Jordan and D. Powell
Risttoda M	J. E. Jones
Captain Dave	G. D. Jarrell
Peck Williams	J. Brashier and J. E. Craft
Captain Anderson	W. C. Langenhenning and W. E. Colliver
Captain Dee Bold	B. Skipper

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## INTRODUCTION

As part of the remote sensing program of the NASA Earth Resources Laboratory, a study of the currents in the eastern Gulf of Mexico is being undertaken. The primary objective of this study is the development of remote sensing techniques to be applied to studies of the world oceans. Initially the study is being conducted utilizing the remote sensing instrumentation aboard NASA aircraft. These aircraft studies are being pursued in such a manner as to allow a logical progression from aircraft data to satellite measurement of parameters found useful in studying ocean systems from aircraft.

The eastern Gulf of Mexico is of particular interest due to the existence of the "Loop Current". The strong current which enters the Gulf of Mexico through the Yucatan Strait and eventually exists through the Florida Strait often develops a pronounced loop which extends into the northern part of the eastern Gulf. Previous oceanographic studies (e.g., Leipper, 1970) appear to indicate that the Loop Current is a seasonal phenomenon. During the spring months, the Loop develops and reaches its northernmost extent in late summer. In the fall of the year, the Loop appears to detach itself from the main current and forms a gyre which drifts in the northeastern portion of the Gulf and eventually dissipates.

In order to observe the seasonal variations in the Loop, three experiments were designed to be undertaken in November 1971, February 1972, and May 1972 using the NASA RB57 and NP3A aircraft. The surface measurements for the November 1971 (experiment #1) are reported elsewhere (Boudreau, 1971).

The analysis of the November experimental data is underway and will be reported at a later date. Because of maintenance and scheduling conflicts, the NASA aircrafts were not available for the planned February 1972 (experiment #2) causing its cancellation. This report contains the measurements made to assist in the analysis and interpretation of remotely sensed data taken in the May 1972 (experiment #3).

Reported here are shipboard measurements which are to be used as "ground truth" for the remotely sensed data and include temperature, salinity and chlorophyll. The temperature, salinity and chlorophyll will be determined remotely using an infrared radiometer, a microwave radiometer and a photographic technique, respectively. It was realized at the outset of this series of experiments that it would be essential to develop techniques for correcting the remotely sensed data for the effects the atmosphere had on the radiation being detected by the remote sensor. The surface measurements and the meteorological data presented here will be used to determine the correction (Boudreau, 1972) to be applied to the 8-14  $\mu\text{m}$  sensor data due to the absorption and emission of 8-14  $\mu\text{m}$  radiation by atmospheric constituents. The influence of the atmosphere on remote sensing experiments should not be underestimated. In order to remotely sense the sea surface from aircraft or satellite with visible and infrared instruments, there must be no clouds in the field of view of the sensor because clouds are nearly opaque to these wavelengths.

This experiment was scheduled for the first day during the period 9-14 May which had less than 30 percent cloud cover beneath the aircraft and seas calm enough to allow small (40-65 ft) boats to make surface measurements. The experiment was planned to cover the Southeastern Gulf concurrently with the RB-57 at 60,000 feet and the NP3A at 25,000 feet as shown on the front cover. However, due either to instrument mal-

function or the existence of widespread cirrus clouds, the RB-57 did not participate in the experiment, and the NP3A flew all the flight lines in the manner shown in Figure 1. A cold front moved into the northern part of the experiment area on May 9 and 10 (see Figs.12 and 14) causing the experiment to be delayed until May 11. On May 11, the front had become ill-defined and stationary in the southern part of the experiment area. The southern half of the experiment area was selected for overflight but the NP3A aborted the experiment after only the southern-most line was flown because the aircraft's data recording system failed. Because the incipient wave on the front(Figs.18 and 20) in the northern Gulf was forecast to move the front into the northern part of the experiment area on May 13, it was decided to attempt flying the northern half on May 12 despite marginal (20 to 40%) cloud conditions. The northern half was flown on May 12 but not as planned; due to a navigation error the first line flown was a diagonal between two adjacent, planned lines (Fig.1). In an attempt to compensate for this error, the next line flown was parallel to the first. The remainder of the lines were flown as originally planned.

On May 13, the NP3A began flying the southern half but had to abort the experiment on the southern-most line because the aircraft's data recording system failed again. The clouds associated with the front which moved into the northern half of the experiment area (Fig.22) on May 14 did not affect the southern half but due to aircraft maintenance the start of the experiment was delayed until afternoon. The delay resulted in only three of the planned four flight lines being flown.

In addition to the observations made at the time of overflight, the ground truth boats also took hourly observations of air and water temperatures going to, returning from, and while on their station. All these observations are presented here together with maps showing the boat tracks.

## MATERIALS AND METHODS

Field measurements were made and water samples taken at eight stations during Eastern Gulf of Mexico Experiment II (Figures 1-9 ). Most of the participants also took measurements and samples enroute to station and returning to port.

Two gallons of sample were taken with a bucket at each station for chlorophyll and salinity analyses. These samples were taken as near the surface as possible.

Water samples at each station were analyzed for chlorophyll by using a sample volume of 2-8 liters. The technique used was essentially that proposed by SCOR-UNESCO working group 17 in Determination of Photosynthetic Pigments in Sea-Water, UNESCO, Paris, 1969. Each water sample for chlorophyll analysis was filtered through a millipore 0.45 micron acetate filter. Samples from stations 1, 2, and 5 were filtered aboard ship. The remaining chlorophyll samples were filtered at Sarasota, Florida. Filters and their residue were frozen and then stored at Mississippi Test Facility at  $-15^{\circ}$  C. Each filter and its residue was ground in a teflon tissue grinder. Ninety percent acetone was used as the extracting agent. The acetone homogenates were stored in the dark for ten minutes, then centrifuges at 2000 g for approximately eighty minutes instead of the recommended ten minutes because the extract was too turbid. The volume of each extract was recorded and the absorption spectrum of the chlorophyll extract measured against a blank acetate filter dissolved in 90% acetone. The measurements were made on a Carey 17 Spectrophotometer.

The absorption spectra were indexed at 750, 663, 645 and 630 m $\mu$  . The absorption at 663, 645 and 630 m $\mu$  was corrected by comparison with

# Materials and Methods Cont'd.

the absorption of the "reference blank" at 750 m $\mu$ . These corrected values are used in the following formula to determine chlorophyll  $\underline{A}$ .

$$\text{chl } \underline{A} = (11.64 \times e_{663} - 2.16 \times e_{645} + 0.10 \times e_{630}) \times$$

$$\frac{\text{ext (ml)}}{\text{vol (l)}} \times \frac{1}{\text{absorption cell light path (cm)}}$$

where  $e_{663}$  = absorption at 663 m $\mu$

$e_{645}$  = absorption at 645 m $\mu$

$e_{630}$  = absorption at 630 m $\mu$

ext = extract volume

vol = volume of sample

Salinities were run with a Beckman Model RS-7B Induction Salinometer. Standard(35 ‰) sea water was used as a reference and salinities were determined from the conductivity ratio of the sample to that of the standard. Temperature and instrument drift corrections were made according to the Beckman manual.

Surface water temperature measurements were made by taking bucket samples and immersing a mercury bulb thermometer in the center of the bucket. Stations 1, 2 used bucket thermometers manufactured by InterOcean Systems.

Air temperature measurements were also taken with mercury bulb thermometers and were taken on the shady side of the boat as close as possible to the water surface.

Water transparency was determined with secchi disks.

Dew point values were obtained with sling psychrometers.

# Materials and Methods Cont'd.

Water current measurements were taken with plastic bottles filled to 3/4 capacity. Direction and time required for the bottle to travel 75 feet were measured.

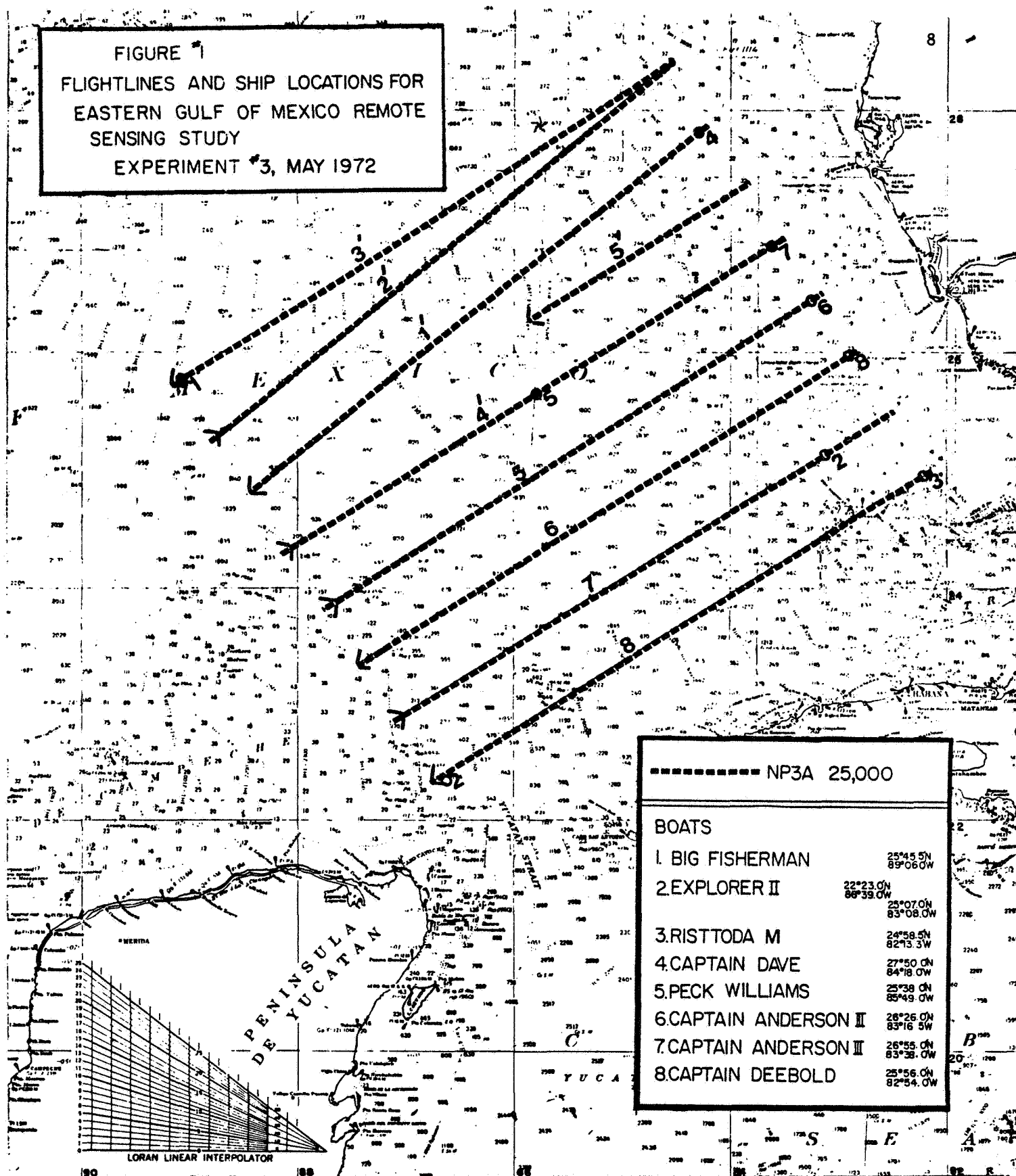
Wind speed, wind direction, and sea state observations were usually estimated.

Below is a nomenclature list for data computations and listings made with the Univac 1108.

<u>Column</u>	<u>Abbreviation</u>	<u>Name</u>
1	STA NUM	Station Number
2	SAMP NUMB	Sample Number
3	DAY	Day of the Month
4	TIME EDT	Time In Eastern Daylight Time
5	LATITUDE	Latitude
6	LONGITUDE	Longitude
7	SALIN PTS/K	Salinity in Parts per Thousand
8	CHLOR PHY A MG/M <sup>3</sup>	Chlorophyll A in milligrams per meter cubed
9	WATER TEMP C	Water temperature in Degree C
10	AIR TEMP C	Air temperature in degrees C
11	DEW PONT C	Dew point in degrees C
12	WIND SPD KN	Wind speed in knots
13	WIND DIR	Wind direction
14	CUR KN	Current speed in knots
15	CUR DIR	Current direction
16	SEA STA FT	Sea state in feet
17	PRT5 TEMP C	Precision Radiation Thermometer temperature in Degrees C
18	REMARKS	Remarks



FIGURE 1  
FLIGHTLINES AND SHIP LOCATIONS FOR  
EASTERN GULF OF MEXICO REMOTE  
SENSING STUDY  
EXPERIMENT #3, MAY 1972



### Shipboard Measurements

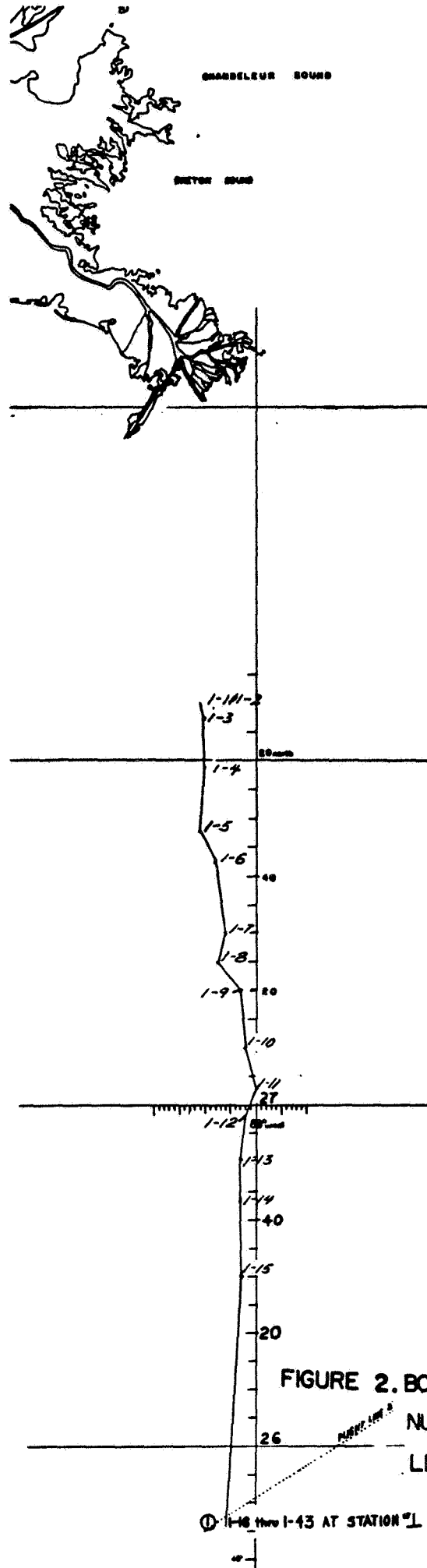


FIGURE 2. BOAT TRACK OF THE BIG FISHERMAN  
NUMBERS REFER TO OBSERVATIONS  
LISTED IN TABLE NUMBER 1

① 1-16 thru 1-43 AT STATION "L"

TABLE 1  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PUNT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS *
1	1	10 1000	28 10.0 N	89 11.0 W	34.50	.39	23.4	24.6	21.4	8	NE	0000	W	5	23.5	SAL=33.9 T=23.3
1	2	10 1100	28 10.0 N	89 11.0 W	0000	0000	23.6	24.9	21.0	12	NE	0000	W	5	24.0	SAL=34.0 T=24.3
1	3	10 1200	28 07.0 N	89 10.0 W	0000	0000	23.8	24.8	20.6	12	NE	0000	W	5	24.1	SAL=33.5 T=24.8
1	4	10 1300	27 58.0 N	89 10.5 W	0000	0000	24.5	24.7	20.6	12	NE	0000	W	5	24.1	SAL=34.1 T=24.8
1	5	10 1400	27 48.0 N	89 11.0 W	0000	0000	23.9	24.7	20.6	14	NE	0000	W	5	24.1	SAL=34.5 T=25.4
1	6	10 1500	27 42.5 N	89 08.0 W	35.80	.05	24.2	24.8	21.6	14	E	0000	W	5	24.1	SAL=35.7 T=24.8
1	7	10 1600	27 30.0 N	89 06.0 W	0000	0000	24.3	24.8	21.6	12	E	0000	W	5	24.0	SAL=35.1 T=24.7
1	8	10 1700	27 25.0 N	89 07.5 W	0000	0000	24.1	24.7	21.0	12	E	0000	W	5	24.2	SAL=35.3 T=25.0
1	9	10 1800	27 20.0 N	89 03.0 W	0000	0000	24.4	24.7	22.6	12	E	0000	W	5	24.9	SAL=35.4 T=25.8
1	10	10 1900	27 10.0 N	89 02.0 W	0000	0000	24.9	24.8	23.0	12	E	0000	W	5	24.9	SAL=36.2 T=25.2
1	11	10 2000	27 03.0 N	89 00.0 W	36.29	.16	25.1	24.6	23.0	10	E	0000	W	5	25.2	SAL=36.1 T=25.3
1	12	10 2100	26 58.0 N	89 02.0 W	0000	0000	24.7	24.6	22.4	14	E	0000	W	5	25.2	SAL=36.4 T=25.2
1	13	10 2200	26 50.0 N	89 03.0 W	0000	0000	25.1	24.9	22.0	16	SE	0000	W	8	25.2	SAL=36.4 T=25.5
1	14	10 2300	26 44.0 N	89 03.0 W	0000	0000	25.1	24.9	21.0	18	SE	0000	W	10	25.3	SAL=36.5 T=25.3
1	15	11 0	26 30.0 N	89 03.0 W	0000	0000	25.4	25.1	22.0	22	SE	0000	W	14	0000	SAL=36.4 T=25.7

\* Salinity and temperature measurements listed under remarks were made with the RS-5 Salinometer.

TABLE 1  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PUNT C	WIND SPD KN	WIND DIR	CUM KN	CUR DIR	SEA STA FT	PM15 TEMP C	REMARKS *
1	16	11 1000	25 45.5 N	89 06.0 W	36.93	.16	25.9	26.5	23.7	16	SE	0000	E	12	25.4	SAL=35.1 T=26.6
1	17	11 1100	25 45.5 N	89 06.0 W	0000	0000	26.3	27.5	24.2	16	SE	0000	E	12	25.5	SAL=36.4 T=27.2
1	18	11 1200	25 45.5 N	89 06.0 W	0000	0000	26.3	27.5	23.7	16	SE	0000	E	12	25.6	SAL=35.5 T=28.2
1	19	11 1315	25 45.5 N	89 06.0 W	0000	0000	26.8	28.4	23.2	16	SE	0000	E	12	25.8	SAL=36.5 T=27.0
1	20	11 1400	25 45.5 N	89 06.0 W	0000	0000	26.7	28.5	23.2	16	SE	0000	E	12	25.8	SAL=36.5 T=28.0
1	21	11 1515	25 45.5 N	89 06.0 W	36.58	.06	28.5	28.7	23.7	16	SE	0000	E	12	25.8	SAL=36.4 T=28.2
1	22	11 1600	25 45.5 N	89 06.0 W	0000	0000	26.7	29.0	23.3	14	SE	0000	E	10	25.8	SAL=36.6 T=28.4
1	23	11 1700	25 45.5 N	89 06.0 W	0000	0000	26.5	30.3	23.0	14	SE	0000	E	10	25.6	SAL=35.9 T=27.9
1	24	11 1800	25 45.5 N	89 06.0 W	0000	0000	26.5	30.8	23.4	14	SE	0000	E	10	25.5	SAL=36.8 T=27.1
1	25	11 1900	25 45.5 N	89 06.0 W	0000	0000	26.6	29.2	23.4	14	SE	0000	E	10	25.0	SAL=36.6 T=26.8
1	26	11 2000	25 45.5 N	89 06.0 W	37.01	.07	26.3	27.0	24.1	14	SE	0000	E	10	25.0	SAL=36.1 T=26.9
1	27	11 2100	25 45.5 N	89 00.0 W	0000	0000	26.7	25.6	24.1	16	SE	0000	E	12	25.0	SAL=36.1 T=26.6
1	28	11 2200	25 45.5 N	89 06.0 W	0000	0000	26.7	25.6	24.1	16	SE	0000	E	12	25.5	SAL=36.3 T=26.6
1	29	11 2300	25 45.5 N	89 06.0 W	0000	0000	26.3	26.1	24.1	18	SE	0000	E	12	25.5	SAL=36.3 T=26.5
1	30	12 0	25 45.5 N	89 06.0 W	0000	0000	26.3	26.7	25.1	20	SE	0000	E	14	26.2	SAL=36.3 T=26.6

\*Salinity and temperature measurements listed under remarks were made with the RS-5 Salinometer.

TABLE 1  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
1 31	0 0			0000	0000	0000	0000	0000	0000		0000		000	0000	TOO ROUGH
1 32	12 800	25 45.5 N	89 06.0 W	36.72	.11	26.3	27.3	23.7	18	SE	0000	E	14	26.4	SAL=36.2 T=26.5
1 33	12 900	25 45.5 N	89 06.0 W	0000	0000	26.3	27.6	24.7	18	SE	0000	E	14	26.4	SAL=36.0 T=26.7
1 34	12 1000	25 45.5 N	89 06.0 W	0000	0000	26.3	27.2	24.2	18	SE	0000	E	14	26.3	SAL=35.9 T=26.9
1 35	12 1030	25 45.5 N	89 06.0 W	0000	0000	26.6	28.3	24.2	16	SE	0000	E	12	26.1	SAL=35.9 T=27.4
1 36	12 1100	25 45.5 N	89 06.0 W	0000	0000	26.8	27.7	23.8	14	SE	0000	E	12	25.6	SAL=36.4 T=27.0
1 37	12 1130	25 45.5 N	89 06.0 W	0000	0000	26.4	26.6	24.9	14	SE	0000	E	12	26.0	SAL=35.8 T=27.3
1 38	12 1200	25 45.5 N	89 06.0 W	0000	0000	26.6	27.7	24.3	14	SE	0000	E	10	25.9	SAL=36.0 T=27.2
1 39	12 1230	25 45.5 N	89 06.0 W	0000	0000	26.9	28.7	24.9	14	SE	0000	E	10	25.6	SAL=35.6 T=28.1
1 40	12 1300	25 45.5 N	89 06.0 W	36.55	0000	27.0	28.1	23.6	14	SE	0000	E	10	26.2	SAL=35.6 T=27.4
1 41	12 1330	25 45.5 N	89 06.0 W	0000	0000	26.9	28.2	25.4	14	SE	0000	E	10	26.0	SAL=34.8 T=28.0
1 42	12 1400	25 45.5 N	89 06.0 W	0000	0000	26.8	28.7	24.3	14	SE	0000	E	10	26.0	SAL=36.0 T=27.6
1 43	12 1455	25 45.5 N	89 06.0 W	36.40	.03	26.9	28.2	25.4	14	SE	0000	E	10	26.7	SAL=34.8 T=28.0

\* Salinity and temperature measurements listed under remarks were made with the RS-5 Salinometer.

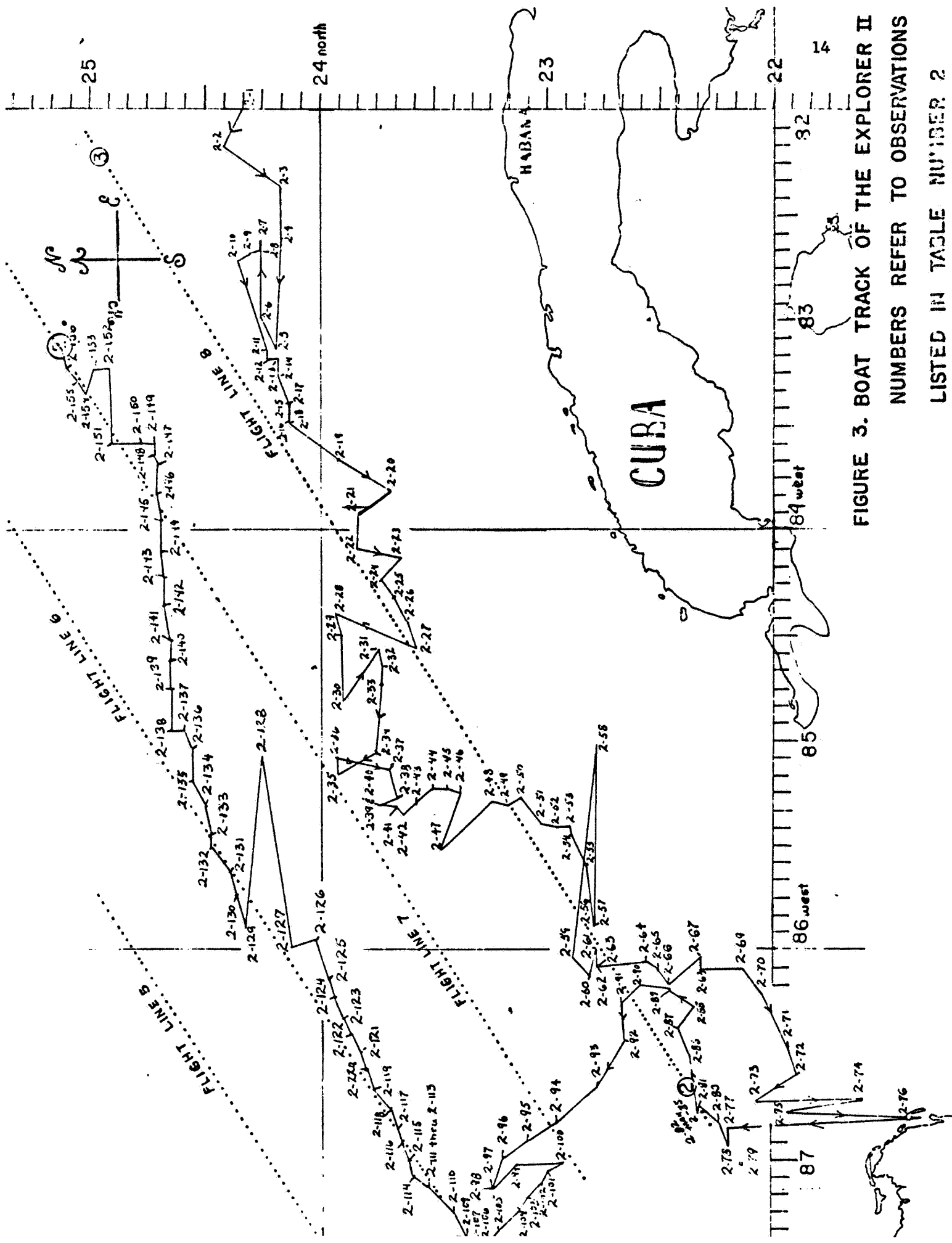


FIGURE 3. BOAT TRACK OF THE EXPLORER II  
 NUMBERS REFER TO OBSERVATIONS  
 LISTED IN TABLE NUMBER 2

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
2 1	7 300	24 20.0 N	82 00.0 W	0000	0000	25.0	25.4	22.0	16	E	0000		4	0000	
2 2	7 400	24 24.0 N	82 10.0 W	0000	0000	25.1	25.3	22.0	16	E	0000		4	0000	
2 3	7 500	24 15.0 N	82 22.0 W	0000	0000	25.1	25.3	22.0	16	E	0000		4	0000	
2 4	7 600	24 15.0 N	82 37.0 W	0000	0000	25.2	25.3	22.0	0000		0000		3	0000	
2 5	7 700	24 11.0 N	83 09.0 W	0000	0000	25.1	25.4	23.1	4	SE	0000		3	0000	
2 6	7 800	24 15.0 N	83 00.0 W	36.85	035	25.2	26.1	22.7	12	SE	0000		3	0000	
2 7	7 900	24 15.0 N	82 37.0 W	0000	0000	26.5	26.3	22.7	16	SE	0000		6	0000	LORAN
2 8	7 1000	24 15.0 N	82 39.0 W	0000	0000	26.9	26.7	22.7	6	SE	0000		5	0000	
2 9	7 1100	24 18.0 N	82 41.0 W	0000	0000	26.8	26.9	22.2	6	E	0000		5	0000	
2 10	7 1200	24 21.0 N	82 42.0 W	0000	0000	26.6	26.8	22.2	12	SE	0000		6	0000	LORAN
2 11	7 1300	24 14.0 N	83 09.0 W	36.85	015	25.8	26.5	21.7	15	SE	0000		4	0000	
2 12	7 1400	24 11.0 N	83 11.0 W	0000	0000	25.2	26.0	22.1	14	SE	0000		4	0000	
2 13	7 1500	24 10.0 N	83 10.0 W	0000	0000	26.6	26.5	23.6	17	SE	0000		5	0000	LORAN
2 14	7 1600	24 10.0 N	83 18.0 W	0000	0000	26.8	26.7	22.2	14	E	0000		5	0000	
2 15	7 1700	24 08.0 N	83 25.0 W	0000	0000	27.0	26.7	22.2	16	E	0000		7	0000	



TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PMTS TEMP C	REMARKS
2 16	7 1800	24 08.0 N	83 30.0 W	37.50	.07	27.1	26.9	22.7	15	E	0.00		0	0.00	
2 17	7 1900	24 08.0 N	83 25.0 W	0.00	0.00	27.3	26.8	22.7	15	NE	0.00		5	0.00	SEXTANT
2 18	7 2000	24 03.0 N	83 30.0 W	0.00	0.00	26.5	26.5	23.6	17	E	0.00		6	0.00	
2 19	7 2100	23 55.0 N	83 40.0 W	0.00	0.00	27.0	26.6	23.7	15	E	0.00		4	0.00	
2 20	7 2200	23 40.0 N	83 50.0 W	0.00	0.00	26.9	26.7	23.2	15	E	0.00		4	0.00	
2 21	7 2300	23 50.0 N	83 55.0 W	37.01	.03	26.4	26.6	23.7	15	SE	0.00		5	0.00	
2 22	8 00	23 50.0 N	84 05.0 W	0.00	0.00	26.9	26.5	24.6	18	SE	0.00		5	0.00	
2 23	8 100	23 49.0 N	84 08.0 W	0.00	0.00	26.9	26.5	24.6	17	SE	0.00		5	0.00	
2 24	8 200	23 45.0 N	84 15.0 W	0.00	0.00	27.0	26.5	24.6	17	SE	0.00		4	0.00	ESTIMATED POS
2 25	8 300	23 40.0 N	84 20.0 W	0.00	0.00	27.0	26.5	23.7	17	SE	0.00		4	0.00	ESTIMATED POS
2 26	8 400	23 37.0 N	84 27.0 W	37.57	.05	27.2	26.5	24.7	16	SE	0.00		4	0.00	ESTIMATED POS
2 27	8 500	23 35.0 N	84 32.0 W	0.00	0.00	27.3	26.3	25.1	16	SE	0.00		3	0.00	ESTIMATED POS
2 28	8 600	23 55.0 N	84 25.0 W	0.00	0.00	27.4	26.5	25.7	15	SE	0.00		3	0.00	ESTIMATED POS
2 29	8 700	23 55.0 N	84 30.0 W	0.00	0.00	27.4	26.5	25.7	12	SE	0.00		3	0.00	ESTIMATED POS
2 30	8 800	23 55.0 N	84 39.0 W	0.00	0.00	27.4	26.9	25.7	16	E	0.00		4	0.00	ESTIMATED POS

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PMTS TEMP C	REMARKS
2 31	8 900	23 45.0 N	84 34.0 W	36.62	.07	27.4	27.0	24.2	16	SE	0000		4	0000	
2 32	8 1000	23 44.0 N	84 39.0 W	0000	0000	27.4	27.3	24.2	18	SE	0000		4	0000	SEXTANT
2 33	8 1100	23 44.0 N	84 44.0 W	0000	0000	27.5	27.5	22.8	12	SE	0000		4	0000	
2 34	8 1200	23 46.0 N	85 04.0 W	0000	0000	27.6	27.7	22.8	13	SE	0000		4	0000	LORAN
2 35	8 1300	23 56.0 N	85 10.0 W	0000	0000	27.7	27.6	22.8	13	SE	0000		5	0000	ESTIMATED POS
2 36	8 1400	23 56.0 N	85 07.0 W	36.51	.04	27.8	27.6	22.8	13	SE	0000		4	0000	LORAN
2 37	8 1500	23 42.5 N	85 10.5 W	0000	0000	28.1	28.0	22.8	8	SE	0000		2	0000	LORAN
2 38	8 1600	23 43.0 N	85 17.0 W	0000	0000	28.4	28.3	23.3	8	SE	0000		2	0000	LORAN
2 39	8 1700	23 44.0 N	85 19.0 W	0000	0000	28.6	28.7	22.9	8	SE	0000		2	0000	LORAN
2 40	8 1800	23 44.0 N	85 19.0 W	0000	0000	28.6	28.5	23.3	5	S	0000		2	0000	
2 41	8 1900	23 40.0 N	85 20.0 W	36.86	.12	28.8	28.8	23.9	1	SE	0000		2	0000	
2 42	8 2000	23 39.0 N	85 22.0 W	0000	0000	28.3	27.5	22.8	1	SE	0000		3	0000	
2 43	8 2100	23 35.0 N	85 18.0 W	0000	0000	28.5	27.0	23.2	4	SE	0000		3	0000	
2 44	8 2200	23 31.0 N	85 15.0 W	0000	0000	28.1	27.1	23.2	8	E	0000		4	0000	SEXTANT
2 45	8 2300	23 27.0 N	85 15.0 W	0000	0000	28.1	27.1	23.2	6	E	0000		4	0000	

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY	TIME	LATITUDE	LONGITUDE	SALIN	CHLOR PHY A	WATR TEMP	AIR TEMP	DEW POINT	WIND SPD	WIND DIR	CUN	CUR DIR	SEA STA	PHYS TEMP	REMARKS
			EDT			PTS/K	HG/M3	C	C	C	KN	DIR	KN		FT	C	
2	46	9	0	23 23.0 N	85 16.0 W	38.06	.07	28.2	27.1	23.2	8	E	0000		4	0000	
2	47	9	100	23 29.0 N	85 33.0 W	0000	0000	28.0	27.2	24.2	4	SE	0000		4	0000	LORAN
2	48	9	200	23 15.0 N	85 18.0 W	0000	0000	27.8	27.0	25.2	4	SE	0000		3	0000	
2	49	9	300	23 11.0 N	85 19.0 W	0000	0000	27.9	27.0	24.2	8	SE	0000		3	0000	
2	50	9	400	23 07.0 N	85 18.0 W	0000	0000	27.8	26.9	24.7	12	E	0000		4	0000	
2	51	9	500	23 02.0 N	85 25.0 W	36.50	.06	27.6	26.7	24.2	9	E	0000		3	0000	
2	52	9	600	22 58.0 N	85 26.0 W	0000	0000	27.2	26.7	24.2	5	S	0000		3	0000	
2	53	9	700	22 54.0 N	85 26.0 W	0000	0000	27.8	26.2	25.1	5	S	0000		2	0000	
2	54	9	800	22 54.0 N	85 28.0 W	0000	0000	27.8	27.6	24.8	1	S	0000		2	0000	
2	55	9	900	22 50.0 N	85 37.0 W	0000	0000	27.9	28.0	24.8	1	SW	0000		1	0000	SEXTANT
2	56	9	1000	22 49.0 N	85 47.0 W	37.31	.13	28.7	28.5	24.3	2	V	0000		1	0000	
2	57	9	1100	22 48.0 N	85 54.0 W	0000	0000	28.5	28.5	24.3	1	V	0000		1	0000	
2	58	9	1200	22 47.0 N	85 02.0 W	0000	0000	28.7	29.0	24.9	1	V	0000		1	0000	
2	59	9	1300	22 53.0 N	86 02.0 W	0000	0000	29.1	29.0	23.9	3	E	0000		1	0000	LORAN
2	60	9	1400	22 49.0 N	86 08.0 W	0000	0000	29.8	30.2	23.0	4	E	0000		1	0000	ESTIMATED POS

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
2 61	9 1500	22 47.0 N	86 00.0 W	36.73	010	29.8	30.2	24.7	6	SE	0000		1	0000	
2 62	9 1600	22 47.0 N	86 05.0 W	0000	0000	29.3	29.8	23.0	1	SE	0000		1	0000	
2 63	9 1700	22 47.0 N	86 05.0 W	0000	0000	30.0	30.0	23.0	1	SE	0000		1	0000	
2 64	9 1800	22 34.0 N	86 04.0 W	0000	0000	29.5	30.0	22.0	1	V	0000		1	0000	
2 65	9 1900	22 30.0 N	86 06.0 W	0000	0000	28.5	29.5	22.4	1	SE	0000		1	0000	
2 66	9 2000	22 28.0 N	86 10.0 W	36.88	009	28.7	28.8	22.9	2	SE	0000		1	0000	
2 68	9 2200	22 19.0 N	86 06.0 W	0000	0000	27.9	27.8	24.8	2	E	0000		1	0000	ESTIMATED POS
2 69	10 0	22 08.0 N	86 06.0 W	0000	0000	27.7	27.3	24.2	6	NE	0000		1	0000	ESTIMATED POS
2 70	10 200	22 04.0 N	86 13.0 W	0000	0000	26.2	26.9	24.7	10	E	0000		3	0000	ESTIMATED POS
2 71	10 400	21 57.0 N	86 30.0 W	0000	0000	26.4	26.5	23.7	7	V	0000		2	0000	LORAN
2 72	10 600	21 55.0 N	86 36.0 W	0000	0000	24.9	26.5	24.7	6	SE	0000		1	0000	
2 73	10 800	22 05.0 N	86 44.0 W	0000	0000	24.9	27.2	25.2	8	SE	0000		2	0000	
2 74	10 1000	21 37.0 N	86 43.0 W	36.69	0000	26.5	27.2	25.2	8	SE	0000		2	0000	SAL AT 1056
2 75	10 1200	21 56.0 N	86 47.0 W	0000	0000	27.2	27.4	24.2	10	E	0000		3	0000	
2 76	10 1400	22 21.0 N	86 49.0 W	36.79	0000	27.4	27.5	23.8	11	SE	0000		3	0000	

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
2 77	10 1600	22 12.0 N	86 52.0 W	0000	0000	26.4	28.0	24.0	6	E	0000		2	0000	
2 78	10 1800	22 12.0 N	86 57.0 W	0000	0000	27.4	27.4	25.2	10	E	0000		3	0000	
2 79	10 2000	22 12.0 N	86 57.0 W	0000	0000	27.2	27.7	24.0	13	E	0000		5	0000	
2 80	11 1000	22 15.0 N	86 50.0 W	0000	0000	26.8	27.3	25.2	10	SE	0000		3	0000	
2 81	11 1050	22 20.0 N	86 45.0 W	36.69	.14	27.0	27.2	25.2	10	SE	0000		3	0000	
2 82	11 1200	22 20.0 N	86 46.0 W	0000	0000	27.0	27.2	24.2	10	SE	0000		3	0000	
2 83	11 1300	22 20.0 N	86 46.0 W	0000	0000	26.6	27.3	24.2	10	E	0000		4	0000	
2 84	11 1345	22 20.0 N	86 46.0 W	36.79	.11	26.8	28.0	24.0	10	E	0000		4	0000	
2 85	11 1500	22 20.0 N	86 46.0 W	0000	0000	26.8	27.4	25.2	10	E	0000		4	0000	
2 86	11 1600	22 22.0 N	86 31.0 W	0000	0000	27.4	28.0	24.0	12	E	0000		4	0000	LORAN
2 87	11 1700	22 25.0 N	86 23.0 W	0000	0000	27.3	27.8	24.0	12	E	0000		4	0000	
2 88	11 1800	22 22.0 N	86 17.0 W	0000	0000	27.6	28.0	24.0	12	E	0000		5	0000	
2 89	11 1900	22 28.0 N	86 12.0 W	36.73	.08	27.5	28.0	25.0	12	E	0000		5	0000	
2 90	11 2000	22 36.0 N	86 10.0 W	0000	0000	27.5	27.6	24.0	1	NW	0000		2	0000	
2 91	11 2100	22 40.0 N	86 16.0 W	0000	0000	27.8	27.6	25.2	1	E	0000		3	0000	

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
2 92	11 2200	22 40.0 N	06 27.0 W	0000	0000	27.1	27.4	25.2	10	E	0000		3	0000	
2 93	11 2300	22 47.0 N	06 40.0 W	0000	0000	26.8	26.8	25.7	10	E	0000		3	0000	
2 94	12 0	22 58.0 N	06 50.0 W	0000	006	26.6	26.8	25.7	4	E	0000		2	0000	
2 95	12 100	23 05.0 N	06 55.0 W	0000	0000	26.6	26.8	25.7	4	E	0000		2	0000	
2 96	12 200	23 11.0 N	07 00.0 W	0000	0000	26.6	26.8	25.7	4	E	0000		1	0000	
2 97	12 300	23 15.0 N	07 10.0 W	0000	0000	26.5	26.5	25.7	4	E	0000		1	0000	
2 98	12 400	23 15.0 N	07 10.0 W	0000	0000	26.5	26.5	25.7	6	SE	0000		1	0000	
2 99	12 500	23 09.0 N	07 02.0 W	38.46	005	26.4	26.2	25.1	4	SE	0000		1	0000	
2 100	12 600	22 56.0 N	07 02.0 W	0000	0000	26.6	26.2	25.1	4	SE	0000		1	0000	
2 101	12 700	23 00.0 N	07 04.0 W	0000	0000	26.4	26.4	25.7	8	NE	0000		3	0000	
2 102	12 800	23 03.0 N	07 08.0 W	0000	0000	26.6	27.2	25.2	4	E	0000		3	0000	LORAN
2 103	12 900	23 05.0 N	07 12.0 W	0000	0000	26.5	27.2	25.2	4	E	0000		3	0000	LORAN
2 104	12 1000	23 08.1 N	07 16.0 W	37.01	011	26.6	27.8	24.8	11	S	0000		6	0000	
2 105	12 1100	23 13.0 N	07 22.0 W	0000	0000	26.5	27.6	24.8	11	SE	0000		5	0000	LORAN
2 106	12 1200	23 17.0 N	07 26.0 W	0000	0000	26.7	27.2	24.8	11	SE	0000		5	0000	

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUM8	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PUNT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
2 107	12 1300	23 19.0 N	87 27.0 W	0000	0000	26.7	26.8	25.7	10	SE	0000		4	0000	
2 108	12 1400	23 19.0 N	87 27.0 W	36.66	006	26.7	27.0	25.2	10	SE	0000		4	0000	
2 108	12 1400	23 19.0 N	87 27.0 W	36.66	008	26.7	27.0	25.2	10	SE	0000		4	0000	
2 109	12 1500	23 22.0 N	87 23.0 W	0000	0000	27.0	27.0	26.2	13	E	0000		4	0000	
2 110	12 1600	23 25.0 N	87 17.0 W	0000	0000	26.9	27.0	26.2	13	E	0000		4	0000	
2 111	12 1700	23 32.0 N	87 09.0 W	0000	0000	26.7	27.1	26.2	11	E	0000		3	0000	
2 112	12 1800	23 32.0 N	87 09.0 W	0000	0000	26.5	27.4	26.2	13	E	0000		3	0000	
2 113	12 1900	23 33.0 N	87 09.0 W	38.05	008	26.8	27.2	26.2	13	E	0000		3	0000	
2 114	12 2000	23 35.0 N	87 06.0 W	0000	0000	26.6	27.4	26.2	10	E	0000		3	0000	
2 115	12 2100	23 37.0 N	87 02.0 W	0000	0000	26.6	26.6	25.7	16	NE	0000		3	0000	
2 116	12 2200	23 39.0 N	86 56.0 W	0000	0000	26.6	26.6	24.7	12	E	0000		4	0000	
2 117	12 2300	23 40.0 N	86 52.0 W	0000	0000	26.6	26.5	25.7	13	E	0000		3	0000	
2 118	13 0	23 42.0 N	86 46.0 W	0000	0000	26.5	26.5	24.7	12	E	0000		4	0000	
2 119	13 100	23 46.0 N	83 40.0 W	0000	0000	26.3	26.6	24.7	14	E	0000		6	0000	
2 120	13 200	23 48.0 N	86 35.0 W	0000	0000	26.6	26.7	24.6	22	E	0000		9	0000	

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
2 121	13 300	23 50.0 N	86 30.0 W	0000	0000	26.6	26.7	24.7	20	SE	0000		9	0000	
2 122	13 400	23 52.0 N	86 25.0 W	0000	0000	0000	0000	0000	20	SE	0000		9	0000	ROUGH WATER
2 123	13 500	23 55.0 N	86 20.0 W	0000	0000	0000	0000	0000	20	SE	0000		9	0000	ROUGH WATER
2 124	13 600	23 56.0 N	86 14.0 W	0000	0000	0000	0000	0000	10	SE	0000		9	0000	ROUGH WATER
2 125	13 700	23 58.0 N	86 09.0 W	0000	0000	26.8	26.8	24.2	18	SE	0000		9	0000	
2 126	13 800	24 01.0 N	85 59.0 W	0000	0000	27.7	26.9	24.7	14	SE	0000		8	0000	LORAN
2 127	13 900	24 08.0 N	86 00.0 W	0000	0000	26.5	26.5	25.7	12	SE	0000		7	0000	
2 128	13 1000	24 15.0 N	85 05.7 W	0000	0000	26.7	26.8	25.7	12	SE	0000		7	0000	
2 129	13 1100	24 20.0 N	85 54.0 W	0000	0000	26.8	27.1	25.2	14	SE	0000		7	0000	
2 130	13 1200	24 22.0 N	85 45.0 W	0000	0000	26.8	27.3	25.2	15	SE	0000		7	0000	
2 131	13 1300	24 25.0 N	85 38.0 W	0000	0000	26.8	27.2	25.2	14	SE	0000		7	0000	
2 132	13 1400	24 28.0 N	85 31.0 W	0000	0000	27.0	27.4	25.2	14	SE	0000		7	0000	LURAN
2 133	13 1500	24 28.0 N	85 27.0 W	0000	0000	27.0	27.4	25.2	12	SE	0000		5	0000	LURAN
2 134	13 1600	24 30.0 N	85 20.0 W	0000	0000	27.1	27.5	22.8	12	SE	0000		6	0000	LURAN
2 135	13 1700	24 32.0 N	85 12.0 W	0000	0000	27.5	27.5	23.8	10	SE	0000		6	0000	LURAN



TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PMTS TEMP C	REMARKS
2	136	13	1800	24 33.0 N	85 03.0 W	0000	0000	27.4	27.5	22.8	10	SE	0000		0	0000	LURAN
2	137	13	1900	24 35.0 N	84 58.0 W	0000	0000	27.6	27.6	22.8	10	SE	0000		0	0000	ESTIMATED POS
2	138	13	2000	24 38.0 N	84 54.0 W	0000	0000	27.9	27.4	22.2	10	SE	0000		0	0000	ESTIMATED POS
2	139	13	2100	24 38.0 N	84 46.0 W	0000	0000	27.6	27.3	22.2	12	SE	0000		4	0000	ESTIMATED POS
2	140	13	2200	24 39.0 N	84 38.0 W	0000	0000	27.7	27.4	23.2	12	SE	0000		4	0000	ESTIMATED POS
2	141	13	2300	24 39.0 N	84 35.0 W	0000	0000	27.8	27.0	23.2	14	SE	0000		4	0000	ESTIMATED POS
2	142	14	0	24 40.0 N	84 22.0 W	0000	0000	27.8	27.0	23.2	10	SE	0000		4	0000	ESTIMATED POS
2	143	14	100	24 40.0 N	84 14.0 W	0000	0000	27.8	27.0	23.2	17	SE	0000		4	0000	ESTIMATED POS
2	144	14	200	24 41.0 N	84 00.0 W	0000	0000	27.9	26.8	23.7	18	SE	0000		4	0000	ESTIMATED POS
2	145	14	300	24 41.0 N	83 58.0 W	0000	0000	27.7	26.8	23.7	17	SE	0000		4	0000	ESTIMATED POS
2	146	14	400	24 42.0 N	83 50.0 W	0000	0000	27.9	26.9	23.7	14	SE	0000		5	0000	ESTIMATED POS
2	147	14	500	24 42.0 N	83 42.0 W	0000	0000	27.8	26.9	23.7	12	SE	0000		4	0000	ESTIMATED POS
2	148	14	600	24 43.0 N	83 39.0 W	0000	0000	27.6	26.4	23.7	12	SE	0000		5	0000	LURAN
2	149	14	700	24 43.0 N	83 36.0 W	0000	0000	27.3	26.4	23.7	12	SE	0000		4	0000	LURAN
2	150	14	800	24 46.0 N	83 35.0 W	0000	0000	27.2	26.4	23.7	12	SE	0000		4	0000	LURAN

TABLE 2  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
2 151	14 900	24 51.0 N	83 35.0 W	0000	0000	27.3	26.8	23.7	10	SE	0000		4	0000	LORAN
2 152	14 1000	24 55.0 N	83 29.0 W	0000	0000	27.4	26.8	23.7	10	SE	0000		3	0000	LORAN
2 153	14 1100	24 59.0 N	83 23.0 W	0000	0000	27.2	26.6	23.7	10	E	0000		3	0000	LORAN
2 154	14 1200	25 00.0 N	83 22.0 W	0000	0000	26.9	26.6	23.7	10	E	0000		3	0000	LORAN
2 155	14 1300	25 03.0 N	83 18.0 W	0000	0000	26.5	26.4	23.7	10	E	0000		3	0000	LORAN
2 156	14 1400	25 06.0 N	83 14.0 W	0000	0000	26.4	26.5	22.7	10	E	0000		2	0000	ESTIMATED POS
2 157	14 1500	25 08.0 N	83 07.0 W	0000	0000	26.6	26.4	22.7	10	E	0000		2	0000	LORAN

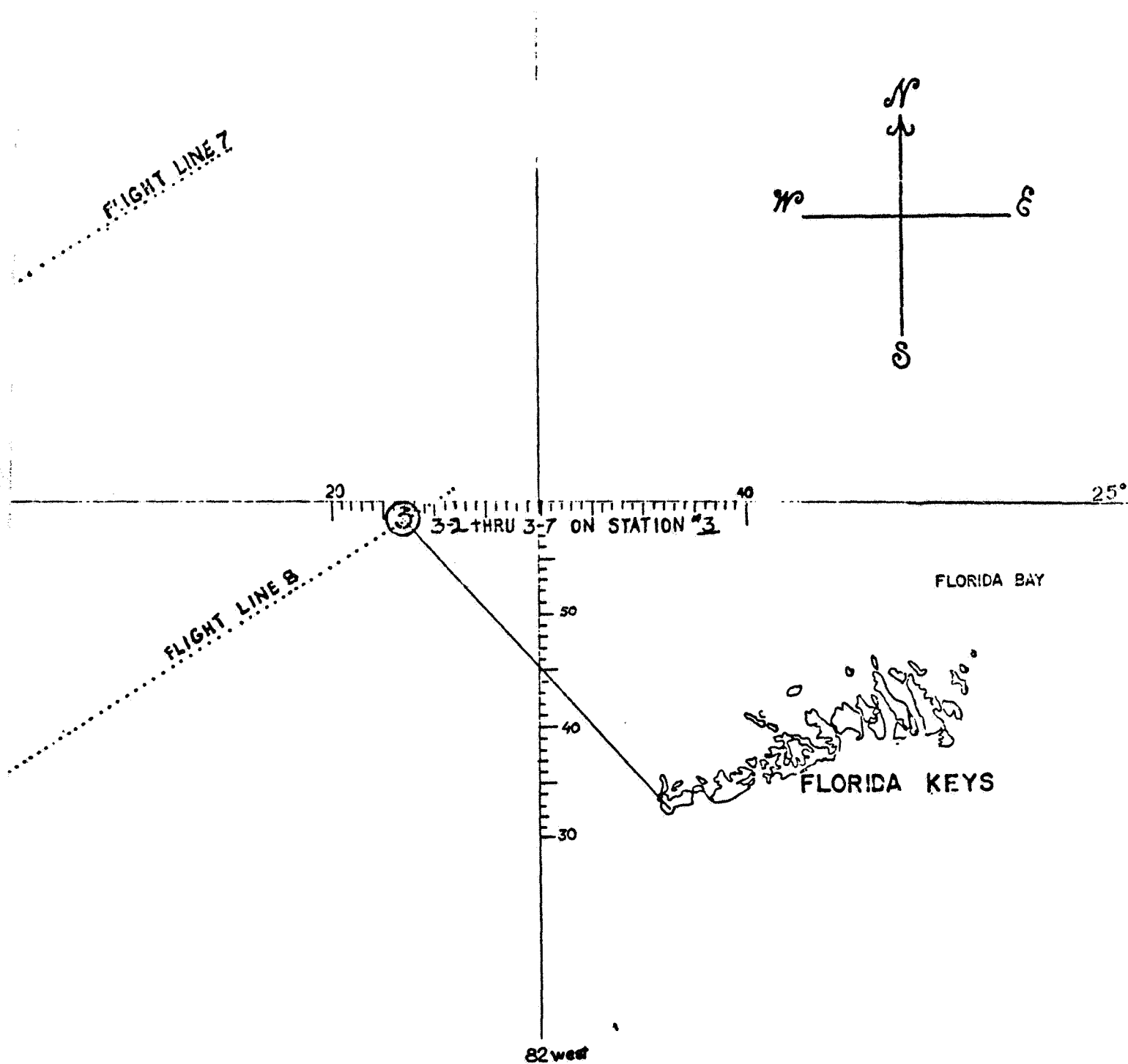


FIGURE 4. BOAT TRACK OF THE RISTTODA M  
 NUMBERS REFER TO OBSERVATIONS  
 LISTED IN TABLE NUMBER 3

TABLE J  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY	TIME	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR- TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
3	1	12	800			0000	0000	26.5	26.9	23.1	15	E	0000		3	0000	10 MI OUT
3	2	12	900	24 58.5 N	82 13.3 W	0000	0000	26.5	27.5	23.2	15	E	.19	90	3	0000	STATION 3
3	3	12	1004	24 58.5 N	82 13.3 W	38.13	.23	26.5	27.0	22.2	15	E	.19	90	3	0000	STATION 3
3	4	12	1100	24 58.5 N	82 13.3 W	0000	0000	26.5	28.9	22.2	15	E	.19	90	2	0000	STATION 3
3	5	12	1200	24 58.5 N	82 13.3 W	0000	0000	26.5	29.0	22.2	15	E	.19	90	2	0000	STATION 3
3	6	13	1000	24 58.5 N	82 13.3 W	0000	0000	25.8	28.4	23.2	15	E	.27	90	4	0000	STATION 3
3	7	13	1100	24 58.5 N	82 13.3 W	38.13	.11	26.2	28.4	23.2	15	E	.27	90	4	0000	STATION 3

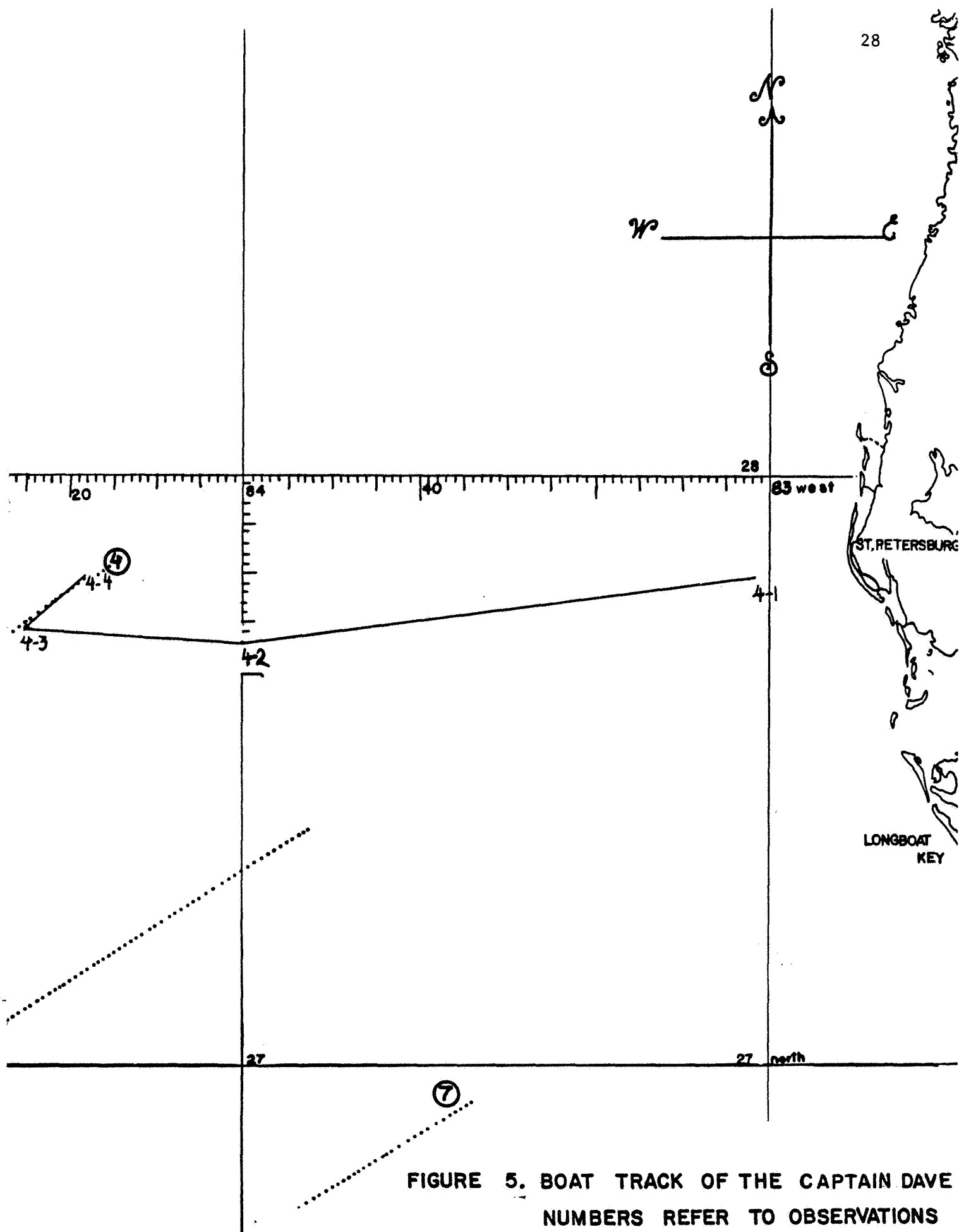


FIGURE 5. BOAT TRACK OF THE CAPTAIN DAVE  
NUMBERS REFER TO OBSERVATIONS

SEE TABLE NUMBER 4

TABLE 4  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
4	1	11	300	27 50.5 N	03 02.0 W	0000	0000	20.4	24.0	19.7	15		0000		000	0000	ROUGH SEAS
4	2	11	400	27 43.0 N	04 00.0 W	0000	0000	22.0	23.0	19.9	0000		0000		000	0000	
4	3	11	800	27 45.0 N	04 25.0 W	0000	0000	23.5	24.5	0000	0000		0000		000	0000	
4	4	11	1300	27 50.0 N	04 18.0 W	38.00	011	0000	0000	0000	0000		0000		000	0000	STATION 4



TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5	1	5 1930	30 08.0 N	88 00.4 W	00000	0000	23.4	22.8	14.8	0000		0000		000	0000	
5	2	5 2030	30 07.0 N	88 31.5 W	00000	0000	22.8	22.2	10.2	0000		0000		000	0000	
5	3	5 2200	30 06.5 N	88 28.5 W	00000	0000	22.8	22.2	14.2	0000		0000		000	0000	
5	4	5 2300	30 05.5 N	88 27.0 W	00000	0000	22.7	22.2	14.2	0000		0000		000	0000	
5	5	6 0	30 02.5 N	88 29.0 W	00000	0000	22.7	22.2	14.2	0000		0000		000	0000	
5	6	6 100	30 02.4 N	87 26.5 W	00000	0000	22.8	22.2	15.2	0000		0000		000	0000	
5	7	6 200	29 57.5 N	88 26.7 W	00000	0000	22.5	22.2	15.2	0000		0000		000	0000	
5	8	6 300	29 55.0 N	88 29.0 W	00000	0000	22.0	22.8	16.8	0000		0000		000	0000	
5	9	6 400	29 46.4 N	88 38.0 W	00000	0000	22.0	23.8	17.9	0000		0000		000	0000	
5	10	6 500	29 38.0 N	88 46.0 W	00000	0000	22.0	22.8	17.8	0000		0000		000	0000	
5	11	6 500	29 30.5 N	88 54.2 W	00000	0000	22.2	22.8	16.8	0000		0000		000	0000	
5	12	6 700	29 24.6 N	89 03.5 W	00000	0000	22.5	22.8	17.8	0000		0000		000	0000	
5	13	6 800	29 20.2 N	89 05.0 W	00000	0000	22.4	22.8	17.8	0000		0000		000	0000	
5	14	6 900	29 19.5 N	89 06.5 W	00000	0000	21.5	23.3	19.3	0000		0000		000	0000	
5	15	6 1000	29 22.0 N	89 07.2 W	00000	0000	21.6	23.8	20.9	0000		0000		000	0000	



TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
5 16	6 1100	29 22.2 N	89 09.2 W	00000	00000	22.6	24.4	21.4	0000		0000		000	0000	
5 17	6 1200	29 19.5 N	89 10.5 W	00000	00000	22.2	24.4	20.4	0000		0000		000	0000	
5 18	6 1300	29 26.2 N	89 13.0 W	00000	00000	22.3	25.5	20.6	0000		0000		000	0000	
5 19	6 1400	29 24.5 N	89 09.5 W	00000	00000	22.3	26.1	21.1	0000		0000		000	0000	
5 20	6 1500	29 20.2 N	89 08.2 W	00000	00000	22.4	26.1	21.1	0000		0000		000	0000	
5 21	6 1600	29 18.5 N	89 07.7 W	00000	00000	23.4	24.9	21.0	0000		0000		000	0000	
5 22	6 1700	29 18.5 N	89 05.5 W	00000	00000	23.0	24.9	21.0	0000		0000		000	0000	
5 23	6 1800	29 26.2 N	89 13.0 W	00000	00000	23.0	24.9	21.0	0000		0000		000	0000	
5 24	6 1900	29 23.0 N	89 15.0 W	00000	00000	23.0	24.9	21.0	0000		0000		000	0000	
5 25	6 2000	29 23.2 N	89 17.5 W	00000	00000	23.1	24.9	21.0	0000		0000		000	0000	
5 26	6 2100	29 20.0 N	89 20.1 W	00000	00000	23.4	24.9	21.0	0000		0000		000	0000	
5 27	6 2200	29 20.0 N	89 20.1 W	00000	00000	23.0	24.4	20.4	0000		0000		000	0000	
5 28	6 2300	29 20.0 N	89 20.1 W	00000	00000	23.0	23.8	20.9	0000		0000		000	0000	
5 29	7 0	29 20.0 N	89 20.1 W	00000	00000	22.9	23.3	21.3	0000		0000		000	0000	
5 30	7 100	29 20.0 N	89 20.1 W	00000	00000	22.8	23.3	21.3	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5 31	7 400	29 20.0 N	89 20.1 W	0000	0000	22.6	22.8	21.8	0000		0000		000	0000	
5 36	7 700	29 20.4 N	89 20.1 W	0000	0000	22.5	23.3	21.3	0000		0000		000	0000	
5 38	7 900	29 23.5 N	89 20.2 W	0000	0000	23.0	23.3	22.3	0000		0000		000	0000	
5 39	7 1000	29 25.0 N	89 18.5 W	0000	0000	21.3	23.8	22.9	0000		0000		000	0000	
5 40	7 1100	29 24.0 N	89 15.2 W	0000	0000	22.9	24.4	23.4	0000		0000		000	0000	
5 41	7 1200	29 23.1 N	89 14.0 W	0000	0000	23.0	24.4	23.6	0000		0000		000	0000	
5 42	7 1300	29 22.5 N	89 10.5 W	0000	0000	23.0	26.1	24.1	0000		0000		000	0000	
5 43	7 1400	29 18.7 N	89 08.2 W	0000	0000	23.6	24.4	23.4	0000		0000		000	0000	
5 44	7 1500	29 16.0 N	89 07.9 W	0000	0000	23.5	24.4	23.4	0000		0000		000	0000	
5 45	7 1600	29 17.8 N	89 03.5 W	0000	0000	23.5	25.5	22.6	0000		0000		000	0000	
5 46	7 1700	29 15.0 N	88 56.5 W	0000	0000	23.9	25.5	22.8	0000		0000		000	0000	
5 47	7 1800	29 08.0 N	88 53.5 W	0000	0000	23.7	24.9	24.0	0000		0000		000	0000	
5 48	7 1900	29 00.0 N	88 51.2 W	0000	0000	24.2	25.5	23.6	0000		0000		000	0000	
5 49	7 2000	28 54.8 N	88 48.5 W	0000	0000	23.7	25.5	23.6	0000		0000		000	0000	
5 50	7 2100	28 54.2 N	88 43.6 W	0000	0000	23.8	25.5	23.6	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PONT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5 51	7 2200	28 43.0 N	08 39.5 W	35.26	0.000	23.4	25.5	23.6	0.000		0.000		0.00	0.000	
5 52	7 2300	28 36.0 N	08 31.0 W	0.000	0.000	23.3	25.5	23.6	0.000		0.000		0.00	0.000	
5 53	8 0	28 31.0 N	08 23.5 W	0.000	0.000	23.3	25.5	23.6	0.000		0.000		0.00	0.000	
5 54	8 100	28 24.2 N	08 15.7 W	0.000	0.000	23.5	25.5	23.6	0.000		0.000		0.00	0.000	
5 55	8 200	28 17.0 N	08 06.0 W	0.000	0.000	23.7	25.5	22.6	0.000		0.000		0.00	0.000	
5 56	8 300	28 10.5 N	07 56.0 W	36.60	.52	24.2	25.5	23.6	0.000		0.000		0.00	0.000	
5 57	8 400	28 04.0 N	07 52.0 W	0.000	0.000	24.5	25.5	23.6	0.000		0.000		0.00	0.000	
5 58	8 500	27 59.0 N	07 47.0 W	0.000	0.000	24.5	24.9	24.0	0.000		0.000		0.00	0.000	
5 59	8 600	27 54.0 N	07 41.5 W	0.000	0.000	24.4	24.9	24.0	0.000		0.000		0.00	0.000	
5 60	8 700	27 47.2 N	07 35.0 W	0.000	0.000	24.5	26.1	23.1	0.000		0.000		0.00	0.000	
5 61	8 800	27 42.5 N	07 30.0 W	36.42	0.000	24.5	26.1	23.1	0.000		0.000		0.00	0.000	
5 62	8 900	27 37.5 N	07 25.0 W	0.000	0.000	25.2	26.7	23.7	0.000		0.000		0.00	0.000	
5 63	8 1000	27 30.2 N	07 18.0 W	36.53	.16	25.7	27.3	24.2	0.000		0.000		0.00	0.000	
5 64	8 1100	27 25.0 N	07 12.0 W	0.000	0.000	26.3	27.9	24.8	0.000		0.000		0.00	0.000	
5 65	8 1200	27 18.0 N	07 05.0 W	0.000	0.000	26.2	27.9	23.8	0.000		0.000		0.00	0.000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
5 66	8 1300	27 10.0 N	86 58.0 W	0000	0000	26.2	27.9	23.8	0000		0000		000	0000	
5 67	8 1400	27 04.0 N	86 51.2 W	36.48	003	26.5	27.9	23.8	0000		0000		000	0000	
5 68	8 1500	26 56.0 N	86 50.0 W	0000	0000	26.5	27.9	23.8	0000		0000		000	0000	
5 69	8 1600	26 46.2 N	86 48.0 W	0000	0000	26.5	27.9	23.8	0000		0000		000	0000	
5 70	8 1700	26 37.5 N	86 46.5 W	0000	0000	26.5	27.9	23.8	0000		0000		000	0000	
5 71	8 1800	26 28.0 N	86 44.0 W	36.30	000	26.7	27.9	23.8	0000		0000		000	0000	CROSSED FL 3
5 72	8 1900	26 22.5 N	86 39.0 W	0000	0000	26.5	27.3	24.2	0000		0000		000	0000	
5 73	8 2000	26 16.5 N	86 33.0 W	0000	0000	26.4	27.3	24.2	0000		0000		000	0000	
5 74	8 2100	26 08.5 N	86 25.0 W	0000	0000	26.5	26.7	25.7	0000		0000		000	0000	
5 75	8 2200	26 05.0 N	86 21.2 W	0000	0000	26.4	26.1	25.1	0000		0000		000	0000	
5 76	8 2300	26 02.0 N	86 18.0 W	36.31	008	26.0	25.5	24.6	0000		0000		000	0000	
5 77	9 0	25 57.5 N	86 13.0 W	0000	0000	26.5	26.1	24.1	0000		0000		000	0000	
5 78	9 100	25 55.8 N	86 10.5 W	0000	0000	26.4	26.1	25.1	0000		0000		000	0000	
5 79	9 200	25 53.0 N	86 08.0 W	0000	0000	26.5	25.5	24.6	0000		0000		000	0000	
5 80	9 300	25 49.5 N	86 04.5 W	0000	0000	26.5	25.5	24.6	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KM	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5 81	9 400	25 45.8 N	84 00.0 W	0000	0000	26.3	26.1	25.1	0000		0000		000	0000	
5 82	9 500	25 41.8 N	85 55.5 W	0000	0000	26.3	26.1	25.1	0000		0000		000	0000	
5 83	9 600	25 38.5 N	85 51.3 W	0000	0000	26.4	26.1	25.1	0000		0000		000	0000	
5 84	9 700	25 38.0 N	85 49.0 W	0000	0000	26.2	26.7	23.1	7 SM		0000		20	0000	STATION 5
5 85	9 800	25 38.0 N	85 49.0 W	0000	0000	26.0	26.8	24.1	7 S		0000		20	0000	STATION 5
5 86	9 900	25 38.0 N	85 49.0 W	0000	0000	26.2	26.7	24.7	7 S		0000	240	20	0000	STA 5 SECCH100
5 87	9 1000	25 38.0 N	85 49.0 W	0000	0000	26.3	27.5	23.8	7 S		0000	240	20	0000	STATION 5
5 88	9 1100	25 38.0 N	85 49.0 W	0000	0000	26.3	27.9	23.3	7 S		0000	240	20	0000	STATION 5
5 89	9 1200	25 38.0 N	85 49.0 W	0000	0000	26.5	28.3	23.4	7 S		0000		20	0000	STATION 5
5 90	9 1300	25 38.0 N	85 49.0 W	0000	0000	26.7	30.5	23.0	7 S		0000	200	20	0000	STATION 5
5 91	9 1323	25 38.0 N	85 49.0 W	36.86	0000	27.0	30.0	22.0	7 S		0000	200	20	0000	STATION 5
5 92	9 1400	25 38.0 N	85 49.0 W	0000	0000	27.4	30.0	23.0	7 S		0000	200	20	0000	STATION 5
5 93	9 1500	25 38.0 N	85 49.0 W	0000	0000	27.5	29.5	23.4	7 S		0000		20	0000	STATION 5
5 94	9 1600	25 38.0 N	85 49.0 W	0000	0000	27.5	29.5	23.4	7 S		0000		20	0000	STATION 5
5 95	9 1630	25 38.0 N	85 49.0 W	0000	0000	27.5	29.5	23.4	7 S		0000		20	0000	STATION 5

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUM8	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PMTS TEMP C	REMARKS
5 96	9 1730	25 41.5 N	85 51.8 W	0000	0000	26.6	27.3	22.2	0000		0000		000	0000	
5 97	9 1800	25 46.8 N	85 55.5 W	0000	0000	26.2	26.1	21.1	0000		0000		000	0000	
5 98	9 1900	25 32.5 N	85 59.5 W	0000	0000	25.7	24.9	21.0	0000		0000		000	0000	
5 99	9 2000	25 58.5 N	86 04.2 W	0000	0000	25.9	25.5	20.6	0000		0000		000	0000	
5 100	9 2100			0000	0000	0000	0000	0000	0000		0000		000	0000	ROUGH SEAS
5 101	9 2200	26 08.0 N	86 09.2 W	36.18	004	25.6	24.4	19.4	0000		0000		000	0000	
5 102	9 2300	26 15.0 N	86 14.5 W	0000	0000	24.9	24.4	19.4	0000		0000		000	0000	
5 103	10 0	26 23.2 N	86 19.5 W	0000	0000	25.8	24.9	20.0	0000		0000		000	0000	
5 104	10 100	26 29.0 N	86 24.0 W	0000	0000	25.6	24.9	20.0	0000		0000		000	0000	
5 105	10 200	26 37.0 N	86 29.2 W	37.01	009	25.5	25.5	20.6	0000		0000		000	0000	
5 106	10 300	26 44.1 N	86 35.0 W	0000	0000	25.5	25.5	20.6	0000		0000		000	0000	
5 107	10 400	26 51.8 N	86 39.5 W	0000	0000	25.4	24.9	20.0	0000		0000		000	0000	
5 108	10 500	27 00.0 N	86 45.0 W	0000	0000	25.7	24.9	21.0	0000		0000		000	0000	
5 109	10 600	27 08.0 N	86 51.0 W	36.84	008	25.8	24.9	21.0	0000		0000		000	0000	
5 110	10 700	27 14.0 N	86 55.0 W	0000	0000	26.0	24.9	21.0	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5 111	10	000	27 20.5 N	07 00.0 W	0000	0000	26.0	25.5	22.6	0000		0000		000	0000	
5 112	10	900	27 26.0 N	07 03.0 W	0000	0000	26.1	25.5	22.6	0000		0000		000	0000	
5 113	10	1000	27 34.0 N	07 08.0 W	0000	0000	26.2	26.7	22.7	0000		0000		000	0000	
5 114	10	1100	27 41.2 N	07 13.0 W	36.51	.14	25.3	26.1	22.1	0000		0000		000	0000	
5 115	10	1200	27 49.5 N	07 18.0 W	0000	0000	25.4	26.1	22.1	0000		0000		000	0000	
5 116	10	1300	27 56.0 N	07 24.0 W	0000	0000	25.4	26.1	22.1	0000		0000		000	0000	
5 117	10	1400	28 07.0 N	07 29.0 W	0000	0000	25.3	27.3	22.2	0000		0000		000	0000	
5 118	10	1500	28 14.2 N	07 34.0 W	0000	0000	25.4	26.7	21.7	0000		0000		000	0000	
5 119	10	1600	28 23.0 N	07 38.5 W	36.71	.14	25.2	28.1	21.1	0000		0000		000	0000	
5 120	10	1700	28 31.0 N	07 44.2 W	0000	0000	25.0	26.1	22.1	0000		0000		000	0000	
5 121	10	1800	28 38.0 N	07 49.0 W	0000	0000	24.9	26.1	23.1	0000		0000		000	0000	
5 122	10	1900	28 45.0 N	07 54.0 W	0000	0000	24.5	24.9	22.0	0000		0000		000	0000	
5 123	10	2000	28 52.0 N	07 58.0 W	0000	0000	24.8	24.9	23.0	0000		0000		000	0000	
5 124	10	2100	28 57.5 N	08 00.0 W	36.80	.10	24.5	23.9	21.4	0000		0000		000	0000	
5 125	10	2700	28 52.0 N	07 54.2 W	0000	0000	24.6	24.0	23.0	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5	126	10	2300	28 46.0 N	87 50.0 W	0000	0000	24.8	24.5	21.0	0000		0000		000	0000	
5	127	11	0	28 38.2 N	87 45.5 W	0000	0000	24.7	24.5	22.0	0000		0000		000	0000	
5	128	11	100	28 30.2 N	87 42.0 W	0000	0000	24.5	24.3	21.6	0000		0000		000	0000	
5	129	11	200	28 22.8 N	87 35.0 W	0000	0000	24.5	24.4	20.4	0000		0000		000	0000	
5	131	11	300	28 15.5 N	87 31.2 W	0000	0000	24.7	24.5	21.4	0000		0000		000	0000	
5	132	11	400	28 07.2 N	87 26.5 W	36.93	.11	24.6	24.3	21.4	0000		0000		000	0000	
5	133	11	500	28 00.0 N	87 20.0 W	0000	0000	24.6	24.6	21.4	0000		0000		000	0000	
5	134	11	600	27 52.2 N	87 16.2 W	0000	0000	24.5	24.3	21.4	0000		0000		000	0000	
5	135	11	700	27 45.0 N	87 11.2 W	0000	0000	24.4	24.4	21.4	0000		0000		000	0000	
5	136	11	800	27 36.5 N	87 05.5 W	38.38	.11	25.1	25.5	22.4	0000		0000		000	0000	
5	137	11	900	27 29.5 N	87 02.0 W	0000	0000	25.0	24.5	22.6	0000		0000		000	0000	
5	138	11	1000	27 21.5 N	86 57.5 W	0000	0000	25.1	25.4	21.6	0000		0000		000	0000	
5	139	11	1100	27 14.5 N	86 53.5 W	0000	0000	25.8	26.8	24.6	0000		0000		000	0000	
5	140	11	1200	27 06.5 N	86 49.0 W	36.61	.11	25.7	26.8	24.1	0000		0000		000	0000	
5	141	11	1300	27 00.0 N	86 44.5 W	0000	0000	25.5	26.2	24.1	0000		0000		000	0000	



TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
5 142	11 1400	26 51.2 N	06 39.7 W	0000	0000	26.0	26.7	23.7	0000		0000		000	0000	
5 143	11 1500	26 43.5 N	06 35.5 W	0000	0000	25.8	26.8	23.7	0000		0000		000	0000	
5 144	11 1600	26 35.0 N	06 31.0 W	37.69	0000	26.5	26.7	22.7	0000		0000		000	0000	
5 145	11 1700	26 28.0 N	06 26.2 W	0000	0000	26.5	26.8	22.7	0000		0000		000	0000	
5 146	11 1800	26 20.0 N	06 22.0 W	0000	0000	26.5	27.9	23.8	0000		0000		000	0000	
5 147	11 1900	26 12.0 N	06 18.5 W	0000	0000	26.3	27.5	23.2	0000		0000		000	0000	
5 148	11 2000	26 04.2 N	06 13.5 W	38.66	0000	26.4	26.7	23.7	0000		0000		000	0000	
5 149	11 2100	25 59.0 N	06 08.2 W	0000	0000	26.6	26.7	23.7	0000		0000		000	0000	
5 150	11 2200	25 52.0 N	06 04.0 W	0000	0000	26.4	26.5	24.7	0000		0000		000	0000	
5 151	11 2300	25 48.0 N	05 59.0 W	0000	0000	26.5	26.6	24.7	0000		0000		000	0000	
5 152	12 00	25 43.2 N	05 54.5 W	0000	0000	26.4	26.5	23.7	0000		0000		000	0000	
5 153	12 100	25 39.2 N	05 50.0 W	37.02	0000	26.6	26.7	23.7	0000		0000		000	0000	
5 154	12 200	25 38.0 N	05 49.0 W	0000	0000	26.5	26.8	22.7	10 SE		0000		4	0000	STATION 5
5 155	12 300	25 38.0 N	05 49.0 W	0000	0000	26.4	26.7	22.7	10 SE		0000		4	0000	STATION 5
5 156	12 400	25 38.0 N	05 49.0 W	0000	0000	26.4	26.7	22.7	10 SE		0000		4	0000	STATION 5

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	DIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
5 157	12 500	25 38.0 N	05 49.0 W	0000	0000	26.4	26.5	22.7	10	SE	0000		4	0000	STATION 5
5 158	12 600	25 38.0 N	05 49.0 W	0000	0000	26.4	26.5	22.7	10	SE	0000		4	0000	STATION 5
5 159	12 700	25 38.0 N	05 49.0 W	0000	0000	26.3	26.3	23.1	0000		0000		4	0000	STATION 5
5 160	12 800	25 38.0 N	05 49.0 W	0000	0000	26.4	26.5	22.7	15	SE	0000		4	0000	ST 5 SECCMI 100
5 161	12 900	25 38.0 N	05 49.0 W	38.46	017	26.4	27.2	24.2	15	SE	0000	130	4	0000	STATION 5
5 162	12 1000	25 38.0 N	05 49.0 W	0000	0000	26.4	27.8	23.2	15	SE	0000		4	0000	STATION 5
5 163	12 1100	25 38.0 N	05 49.0 W	0000	0000	26.5	27.9	22.8	15	SE	0000		4	0000	STATION 5
5 164	12 1200	25 38.0 N	05 49.0 W	0000	0000	26.6	28.4	24.3	15	SE	0000		4	0000	STATION 5
5 165	12 1229	25 38.0 N	05 49.0 W	38.20	004	26.5	28.5	24.3	15	SE	0000		4	0000	AIRCRAFT ABOVE
5 166	12 1300	25 38.0 N	05 49.0 W	0000	001	26.5	28.5	24.3	15	SE	0000		4	0000	STATION 5
5 167	12 1400	25 45.0 N	05 53.5 W	0000	0000	26.7	28.0	23.8	0000		0000		000	0000	
5 168	12 1500	25 53.2 N	06 00.0 W	0000	0000	26.5	28.5	23.3	0000		0000		000	0000	
5 169	12 1600	26 00.0 N	06 05.5 W	0000	0000	26.9	27.8	23.8	0000		0000		000	0000	
5 170	12 1700	26 08.2 N	06 10.5 W	36.72	013	26.5	27.4	24.8	0000		0000		000	0000	
5 171	12 1800	26 15.8 N	06 15.0 W	0000	0000	26.4	27.5	24.8	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR A TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PKTS TEMP C	REMARKS
5 172	12 1900	26 22.0 N	06 21.0 W	0000	0000	26.5	26.8	24.2	0000		0000		000	0000	
5 173	12 2000	26 30.0 N	06 26.5 W	0000	0000	26.5	26.8	22.4	0000		0000		000	0000	
5 174	12 2100	26 35.2 N	06 31.0 W	34.29	011	26.4	26.4	23.7	0000		0000		000	0000	
5 175	12 2200	26 41.8 N	06 35.0 W	0000	0000	26.3	26.3	23.7	0000		0000		000	0000	
5 176	12 2300	26 48.8 N	06 38.0 W	0000	0000	26.4	25.4	24.7	0000		0000		000	0000	
5 177	13 0	26 56.5 N	06 43.5 W	0000	0000	26.4	25.5	24.7	0000		0000		000	0000	
5 178	13 100	27 05.8 N	06 47.5 W	37.02	024	26.3	25.8	24.6	0000		0000		000	0000	
5 178	13 100	27 05.8 N	06 47.5 W	37.02	1.31	26.3	25.8	24.6	0000		0000		000	0000	
5 179	13 200	27 12.0 N	06 51.0 W	0000	0000	26.3	25.7	22.7	0000		0000		000	0000	
5 180	13 300	27 18.2 N	06 54.0 W	0000	0000	26.3	25.7	22.7	0000		0000		000	0000	
5 181	13 400	27 25.0 N	06 57.5 W	0000	0000	26.3	25.7	22.7	0000		0000		000	0000	
5 182	13 500	27 31.0 N	07 01.2 W	0000	0000	26.2	26.0	25.7	0000		0000		000	0000	HIGH SEAS RAIN
5 183	13 600	27 37.2 N	07 05.0 W	0000	0000	0000	0000	21.8	0000		0000		000	0000	
5 184	13 700	27 44.0 N	07 08.0 W	37.03	012	25.2	21.5	21.2	0000		0000		000	0000	
5 185	13 800			0000	0000	25.0	22.2	22.3	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA FT	PMTS TEMP C	REMARKS
5 186	13	900	28 00.0 N	87 18.0 W	0000	0000	24.4	22.8	23.4	0000		0000		000	0000	
5 187	13	1000	28 06.5 N	87 24.0 W	0000	0000	24.7	23.5	22.0	0000		0000		000	0000	
5 188	13	1100	28 14.0 N	87 29.5 W	0000	0000	24.6	24.3	22.6	0000		0000		000	0000	
5 189	13	1200	28 20.5 N	87 35.0 W	37.14	.20	24.8	24.3	21.6	0000		0000		000	0000	
5 190	13	1300	28 28.5 N	87 41.0 W	0000	0000	24.7	24.3	22.6	0000		0000		000	0000	
5 191	13	1400	28 35.0 N	87 46.0 W	0000	0000	24.3	23.8	23.4	0000		0000		000	0000	
5 192	13	1500	28 41.0 N	87 50.5 W	0000	0000	24.3	23.8	22.9	0000		0000		000	0000	
5 193	13	1500	28 47.5 N	87 56.0 W	0000	0000	24.7	24.5	22.4	0000		0000		000	0000	
5 194	13	1700	28 53.5 N	88 00.0 W	37.57	.17	24.3	23.9	23.4	0000		0000		000	0000	
5 195	13	1800	29 00.0 N	88 05.0 W	0000	0000	24.0	24.4	21.4	0000		0000		000	0000	
5 196	13	1900	29 06.0 N	88 10.2 W	0000	0000	23.6	23.2	19.9	0000		0000		000	0000	
5 197	13	2000	29 14.5 N	88 16.2 W	0000	0000	23.5	23.1	20.3	0000		0000		000	0000	
5 198	13	2100	29 20.0 N	88 21.0 W	0000	0000	23.2	23.4	18.3	0000		0000		000	0000	
5 199	13	2200	29 30.5 N	88 26.0 W	36.86	.30	22.8	22.8	21.8	0000		0000		000	0000	
5 200	13	2300	29 37.5 N	88 32.5 W	0000	0000	23.0	22.1	21.3	0000		0000		000	0000	

TABLE 5  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SLA STA FT	PNTS TEMP C	REMARKS
5 201	14	0	29 44.0 N	88 40.0 W	0000	0000	23.0	22.2	20.9	0000		0000		000	0000	
5 202	14	100	29 51.1 N	88 46.5 W	0000	0000	23.5	22.5	21.4	0000		0000		000	0000	
5 203	14	200	30 00.0 N	88 48.5 W	0000	0000	23.5	22.7	22.4	0000		0000		000	0000	
5 204	14	300	30 06.7 N	88 52.5 W	0000	0000	23.6	23.0	22.9	0000		0000		000	0000	
5 205	14	400	30 13.0 N	89 00.0 W	0000	0000	23.5	23.3	21.3	0000		0000		000	0000	
5 206	14	500	30 21.0 N	88 54.0 W	0000	0000	23.1	24.0	22.3	0000		0000		000	0000	

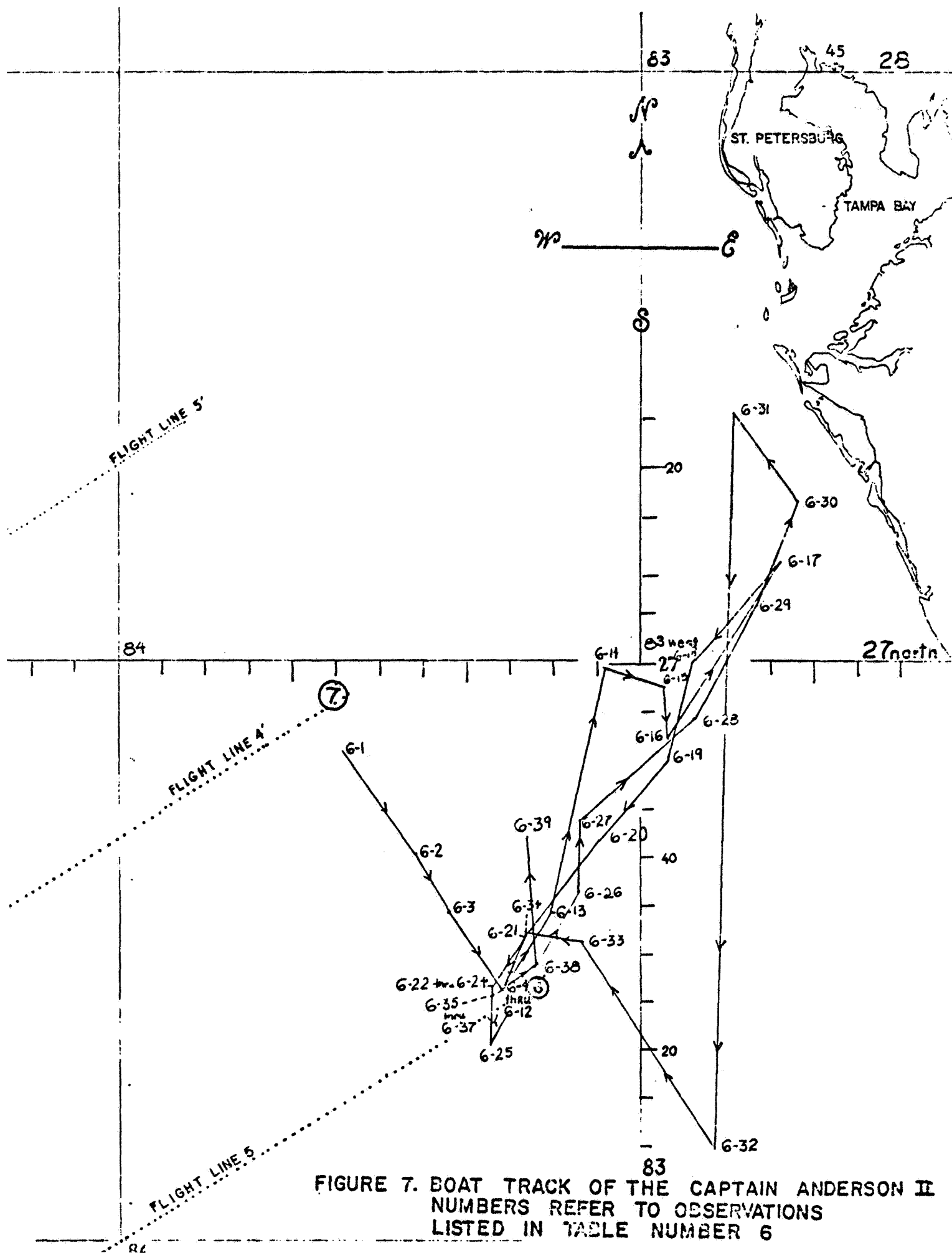


FIGURE 7. BOAT TRACK OF THE CAPTAIN ANDERSON II  
NUMBERS REFER TO OBSERVATIONS  
LISTED IN TABLE NUMBER 6

TABLE 6  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
6 1	11 1030	26 51.0 N	83 34.0 W	0000	0000	24.5	24.0	23.0	0000		0000		000	0000	
6 2	11 1130	26 40.5 N	83 27.0 W	0000	0000	24.5	24.5	23.6	0000		0000		000	0000	
6 3	11 1230	26 34.0 N	83 22.0 W	0000	0000	24.6	24.7	23.0	0000		0000		000	0000	
6 4	11 1330	26 26.0 N	83 16.5 W	0000	0000	25.0	25.3	23.7	0000		0000		000	0000	
6 5	11 1430	26 26.0 N	83 16.5 W	0000	0000	25.1	25.1	23.7	15 SE		0.49	110	4	0000	ST. 6 SECCH124*
6 6	11 1550	26 26.0 N	83 16.5 W	0000	0000	25.0	25.2	24.7	6 E		0.50	75	3	0000	STATION 6
6 7	11 1600	26 26.0 N	83 16.5 W	0000	0000	25.2	24.8	24.8	5 SE		0.47	95	2	0000	STATION 6
6 8	12 1145	26 26.0 N	83 16.5 W	0000	0000	24.7	25.0	24.0	10 NE		0.81	230	3	0000	ST. 6 SECCH124*
6 9	12 1247	26 26.0 N	83 16.5 W	0000	0000	24.7	26.0	23.6	15 NE		0.66	240	3	0000	STATION 6
6 10	12 1400	26 26.0 N	83 16.5 W	0000	0000	24.9	25.0	24.1	15 E		0.56	250	3	0000	STATION 6
6 11	12 1500	26 26.0 N	83 16.5 W	0000	0000	25.0	26.4	23.6	10 E		0.59	250	3	0000	STATION 6
6 12	12 1600	26 26.0 N	83 16.5 W	0000	0000	24.8	26.0	24.4	10 E		0.47	250	2	0000	STATION 6
6 13	12 1700	26 34.0 N	83 10.5 W	0000	0000	25.4	25.6	23.1	5		0000		2	0000	
6 14	12 1800	26 59.0 N	83 04.0 W	0000	0000	25.2	26.6	23.1	5		0000		2	0000	
6 15	12 1900	26 52.0 N	82 57.0 W	0000	0000	24.7	24.1	22.0	0000		0000		000	0000	

TABLE 6  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUM8	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
6 16	12 2000			00000	00000	24.7	24.5	23.4	0000		0000		000	0000	
6 17	13 000	27 10.0 N	02 44.0 W	00000	00000	24.2	23.2	21.8	15	SE	0000		3	0000	
6 18	13 900	27 00.0 N	02 54.0 W	00000	00000	24.3	23.5	22.3	15	SE	0000		3	0000	
6 19	13 1000	26 50.0 N	02 57.0 W	00000	00000	24.4	24.0	23.4	15	SE	0000		000	0000	
6 20	13 1100	26 41.5 N	03 04.5 W	00000	00000	24.1	25.0	24.0	0000		0000		000	0000	
6 21	13 1200	26 31.0 N	03 13.0 W	00000	00000	24.3	24.4	24.0	0000		0000		000	0000	
6 22	13 1300	26 24.0 N	03 16.5 W	00000	00000	25.5	25.3	24.6	0000		002	100	3	0000	STATION 6
6 23	13 1400	26 24.0 N	03 16.5 W	00000	00000	25.4	25.5	24.6	12	SE	034	100	3	0000	STATION 6
6 24	13 1500	26 24.0 N	03 16.5 W	00000	007	25.4	26.0	24.1	12	SE	042	100	3	0000	STATION 6
6 25	13 1600	26 20.0 N	03 16.5 W	00000	00000	25.1	25.3	24.6	12	SE	037	100	3	0000	STATION 6
6 26	13 1700	26 34.0 N	03 07.0 W	00000	00000	24.3	24.5	24.6	5		0000		2	0000	
6 27	13 1800	26 44.0 N	03 07.0 W	00000	00000	24.3	25.7	24.0	5		0000		2	0000	
6 28	13 1900	26 54.0 N	02 54.5 W	00000	00000	24.5	24.7	23.6	0000		0000		2	0000	
6 29	13 2000	27 04.0 N	02 47.0 W	00000	00000	24.8	24.6	24.6	0000		0000		1	0000	
6 30	14 900	27 14.0 N	02 42.0 W	00000	00000	24.4	25.4	24.0	0000		0000		000	0000	



TABLE 6  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PONT C	WIND SPD KN	WIND DIR	CUN KN	CUR DIR	SEA STA FT	PRTS TEMP C	REMARKS
6 31	14 1000	27 25.0 N	82 50.0 W	0000	0000	24.5	24.6	24.6	0000		0000		000	0000	
6 32	14 1100	26 51.0 N	82 53.0 W	0000	0000	24.5	25.6	24.6	0000		0000		000	0000	
6 33	14 1200	26 38.5 N	83 07.0 W	0000	0000	24.6	24.9	25.1	0000		0000		000	0000	
6 34	14 1300	26 32.0 N	83 13.0 W	0000	0000	25.3	25.1	24.7	0000		0000		000	0000	
6 35	14 1400	26 26.0 N	83 16.5 W	0000	0000	25.5	25.5	24.2	0 50		.34	355	2	0000	ST. 6 SECCM1240
6 36	14 1500	26 26.0 N	83 16.5 W	0000	0000	25.7	25.7	24.1	0 50		.33	355	2	0000	STATION 6
6 37	14 1545	26 26.0 N	83 16.5 W	0000	.05	25.8	26.5	24.1	5 50		.32		000	0000	
6 38	14 1700	26 38.0 N	83 10.0 W	0000	0000	25.4	26.4	24.7	0000		0000		000	0000	
6 39	14 1800	26 42.0 N	83 12.0 W	0000	0000	25.3	27.3	25.3	0000		0000		000	0000	

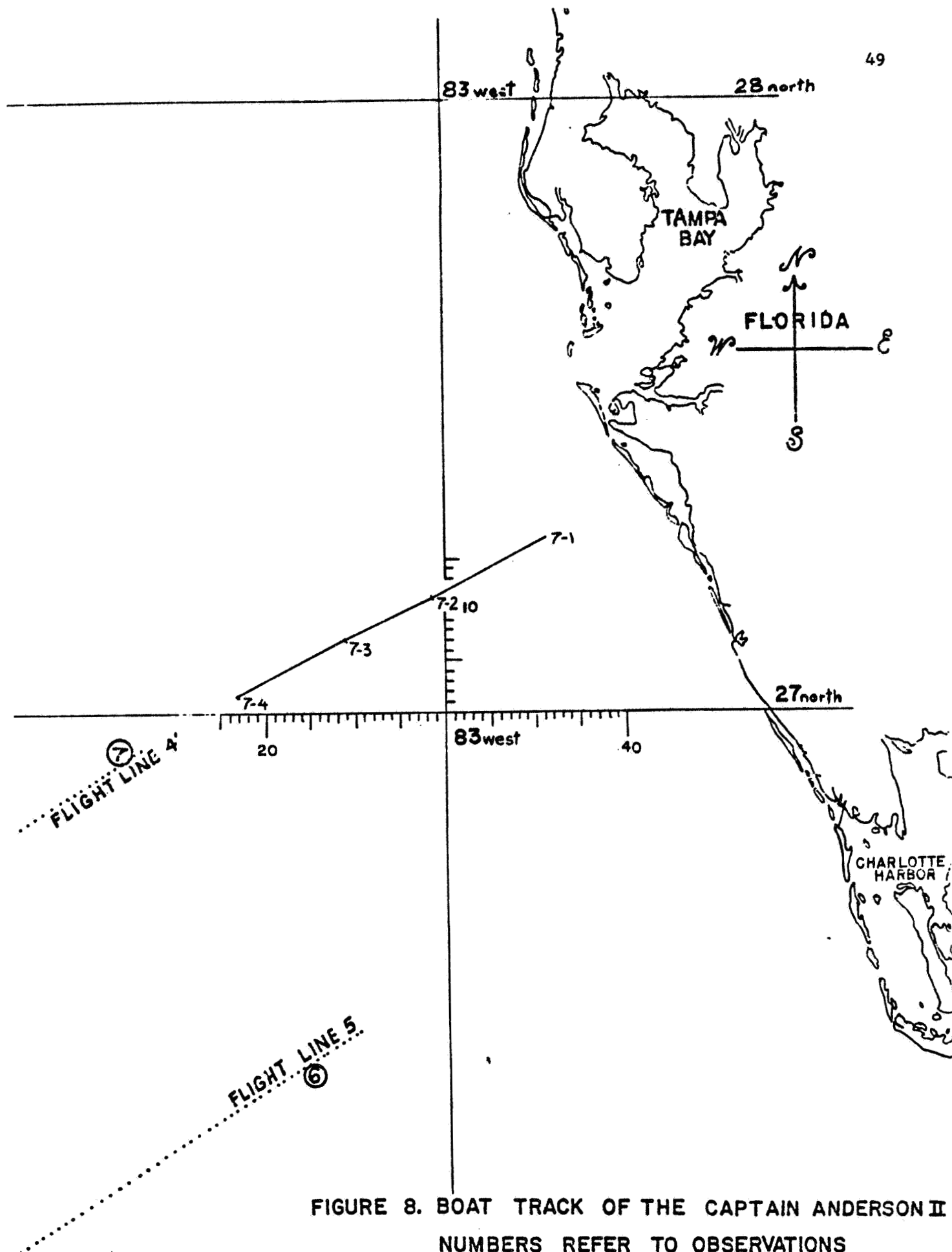


FIGURE 8. BOAT TRACK OF THE CAPTAIN ANDERSON II  
NUMBERS REFER TO OBSERVATIONS  
LISTED IN TABLE NUMBER 7

TABLE 7  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUH8	DAY	TIME LDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PRIS TEMP C	REMARKS
7	1	11 530	27 17.0 N	02 48.5 W	00000	00000	24.1	22.0	20.9	0000		0000		000	0000	
7	2	11 630	27 11.0 N	03 01.5 W	00000	00000	24.0	23.0	22.4	0000		0000		000	0000	
7	3	11 725	27 07.0 N	03 11.5 W	00000	00000	23.8	24.0	22.4	0000		0000		000	0000	
7	4	11 830	27 01.5 N	03 23.0 W	00000	00000	23.5	24.0	22.4	0000		0000		000	0000	
7	5	11 930			00000	00000	23.9	24.4	23.0	0000		0000		000	0000	

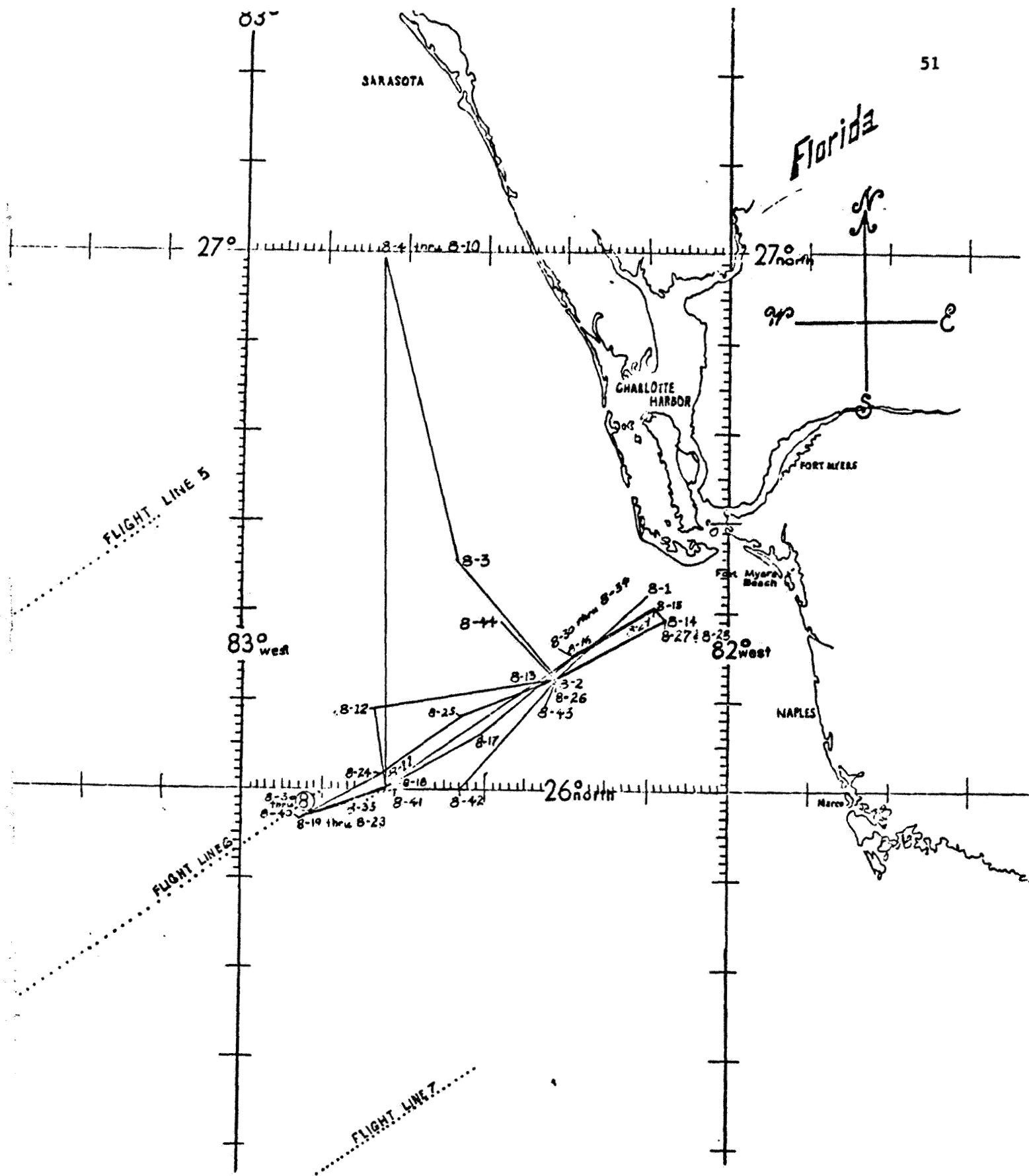


FIGURE 9. BOAT TRACK OF THE CAPTAIN DEEBOLD  
NUMBERS REFER TO OBSERVATIONS  
LISTED IN TABLE NUMBER 8

TABLE 8  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY	TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW PUNT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PRIS TEMP C	REMARKS
0 32	14	900	26 15.0 N	02 19.5 W	0000	0000	25.2	24.8	23.4	6 SE		0000		1	0000	
0 33	14	1000	26 15.0 N	02 19.5 W	0000	0000	25.2	25.0	23.0	6 SE		0000		1	0000	
0 34	14	1100	26 15.0 N	02 19.5 W	0000	0000	25.7	25.3	24.6	6 SE		0000		1	0000	
0 35	14	1200	26 00.5 N	02 42.0 W	0000	0000	25.6	25.3	24.1	6 SE		0000		1	0000	
0 36	14	1300	25 56.8 N	02 53.8 W	0000	0000	25.0	25.9	24.1	0 SE		0000		1	0000	
0 37	14	1400	25 56.8 N	02 53.8 W	0000	0000	25.1	25.8	23.7	6 SE		0000		1	0000	
0 38	14	1500	25 56.8 N	02 53.8 W	0000	0000	25.2	26.1	23.7	6 SE		0000		1	0000	
0 39	14	1550	25 56.0 N	02 54.0 W	0000	1.53	25.3	26.1	23.1	6 SE		039	225	1	0000	HEARD PLANE
0 40	14	1600	25 56.8 N	02 53.8 W	37.29	0000	25.3	26.1	23.7	6 SE		0000		1	0000	
0 41	14	1700	26 00.5 N	02 42.0 W	0000	0000	25.2	25.9	23.7	6 SE		0000		1	0000	
0 42	14	1800	26 00.0 N	02 33.0 W	0000	0000	25.0	25.4	23.1	6 SE		0000		1	0000	SECCHI 12+
0 43	14	1900	26 13.0 N	02 21.0 W	0000	0000	25.1	25.3	23.0	6 SE		0000		1	0000	
0 44	14	2000	26 19.0 N	02 08.5 W	0000	0000	25.1	25.3	23.0	6 SE		0000		1	0000	

TABLE 8  
SHIPBOARD SURFACE MEASUREMENTS

STA NUM	SAMP NUM	DAY	TIME	LATITUDE	LONGITUDE	SALIN	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	#WIND SPD KN	#WIND DIR	CUR KN	CUR DIR	SEA STA FT	PRIS TEMP C	REMARKS
			EDT			PTS/K											
0	16	13	900	26 15.0 N	02 19.5 W	0000	0000	25.2	24.8	23.4	10	SE	0000		000	0000	
0	17	13	1000	26 06.0 N	02 31.0 W	0000	0000	25.2	25.0	23.0	10	SE	0000		1	0000	
0	18	13	1100	26 00.5 N	02 42.0 W	0000	0000	25.0	25.3	23.0	10	SE	0000		2	0000	
0	19	13	1200	25 56.8 N	02 53.8 W	0000	0000	25.0	25.3	23.6	10	SE	0000		2	0000	
0	20	13	1300	25 56.8 N	02 53.8 W	0000	0000	25.0	25.9	24.1	10	SE	0000		2	0000	
0	21	13	1400	25 56.8 N	02 53.8 W	0000	0000	25.0	25.8	24.1	10	SE	0000		2	0000	
0	22	13	1500	25 56.8 N	02 53.8 W	0000	0000	25.1	26.3	23.7	10	SE	039	225	2	0000	
0	23	13	1520			0000	0000	25.0	26.2	24.1	0	SE	038	225	000	0000	FLYOVER
0	24	13	1600	26 01.3 N	02 43.8 W	0000	0000	25.1	25.9	24.1	10	SE	0000		000	0000	
0	25	13	1700	26 09.0 N	02 33.0 W	0000	0000	25.0	25.7	23.6	0	SE	0000		1	0000	SECCHI 12+
0	26	13	1800	26 13.0 N	02 21.0 W	0000	0000	25.0	25.5	23.0	0	SE	0000		000	0000	
0	27	13	1900	26 19.0 N	02 08.5 W	0000	0000	25.1	25.3	23.0	0	SE	0000		000	0000	
0	29	14	600	26 20.5 N	02 09.0 W	0000	0000	25.4	24.4	23.4	6	SE	0000		1	0000	SECCHI 12+
0	30	14	700	26 15.0 N	02 19.5 W	0000	0000	25.3	24.8	23.4	6	SE	0000		1	0000	
0	31	14	800	26 15.0 N	02 19.5 W	0000	0000	25.4	24.4	22.9	6	SE	0000		1	0000	

TABLE B  
SHIPBOARD SURFACE MEASUREMENTS

STA SAMP NUM NUMB	DAY TIME EDT	LATITUDE	LONGITUDE	SALIN PTS/K	CHLOR PHY A MG/M3	WATR TEMP C	AIR TEMP C	DEW POINT C	WIND SPD KN	WIND DIR	CUR KN	CUR DIR	SEA STA FT	PNTS TEMP C	REMARKS
8 1	12 700	26 18.8 N	82 10.0 W	0000	0000	25.3	25.0	23.4	8	SE	0000		2	0000	SECCHI 120
8 2	12 800	26 13.0 N	82 21.0 W	0000	0000	24.8	24.6	23.4	10	SE	0000		000	0000	
8 3	12 900	26 06.0 N	82 33.0 W	0000	0000	25.0	25.4	24.0	10	SE	0000		000	0000	
8 4	12 1000	25 59.5 N	82 43.5 W	0000	0000	25.2	25.4	23.6	10	SE	0000		2	0000	
8 5	12 1100	25 59.5 N	82 43.5 W	0000	0000	25.2	25.4	24.1	10	SE	0000		2	0000	
8 6	12 1200	25 59.5 N	82 43.5 W	0000	0000	25.0	26.4	24.1	10	SE	0000		2	0000	
8 7	12 1300	25 59.5 N	82 43.5 W	0000	0000	25.1	25.0	23.7	10	SE	0000		2	0000	
8 8	12 1400	25 59.5 N	82 43.5 W	0000	0000	25.1	24.8	23.7	10	SE	025	270	2	0000	
8 9	12 1500	25 59.5 N	82 43.5 W	0000	0000	25.1	26.1	23.2	10	SE	0000		000	0000	
8 10	12 1600	25 59.5 N	82 43.5 W	0000	0000	25.1	25.9	23.7	10	SE	0000		000	0000	
8 11	12 1700	26 01.3 N	82 43.6 W	0000	0000	25.1	25.9	23.7	8	SE	0000		1	0000	
8 12	12 1800	26 09.0 N	82 33.0 W	0000	0000	25.0	25.5	23.7	4	SE	0000		1	0000	
8 13	12 1900	26 13.0 N	82 21.0 W	0000	0000	25.0	25.0	23.6	12	NE	0000		2	0000	
8 14	12 2000	26 19.0 N	82 08.0 W	0000	0000	24.8	24.7	23.0	12	NE	0000		2	0000	
8 15	13 800	26 20.5 N	82 09.0 W	0000	0000	25.4	24.4	22.4	10	SE	0000		2	0000	

### Ancillary Data



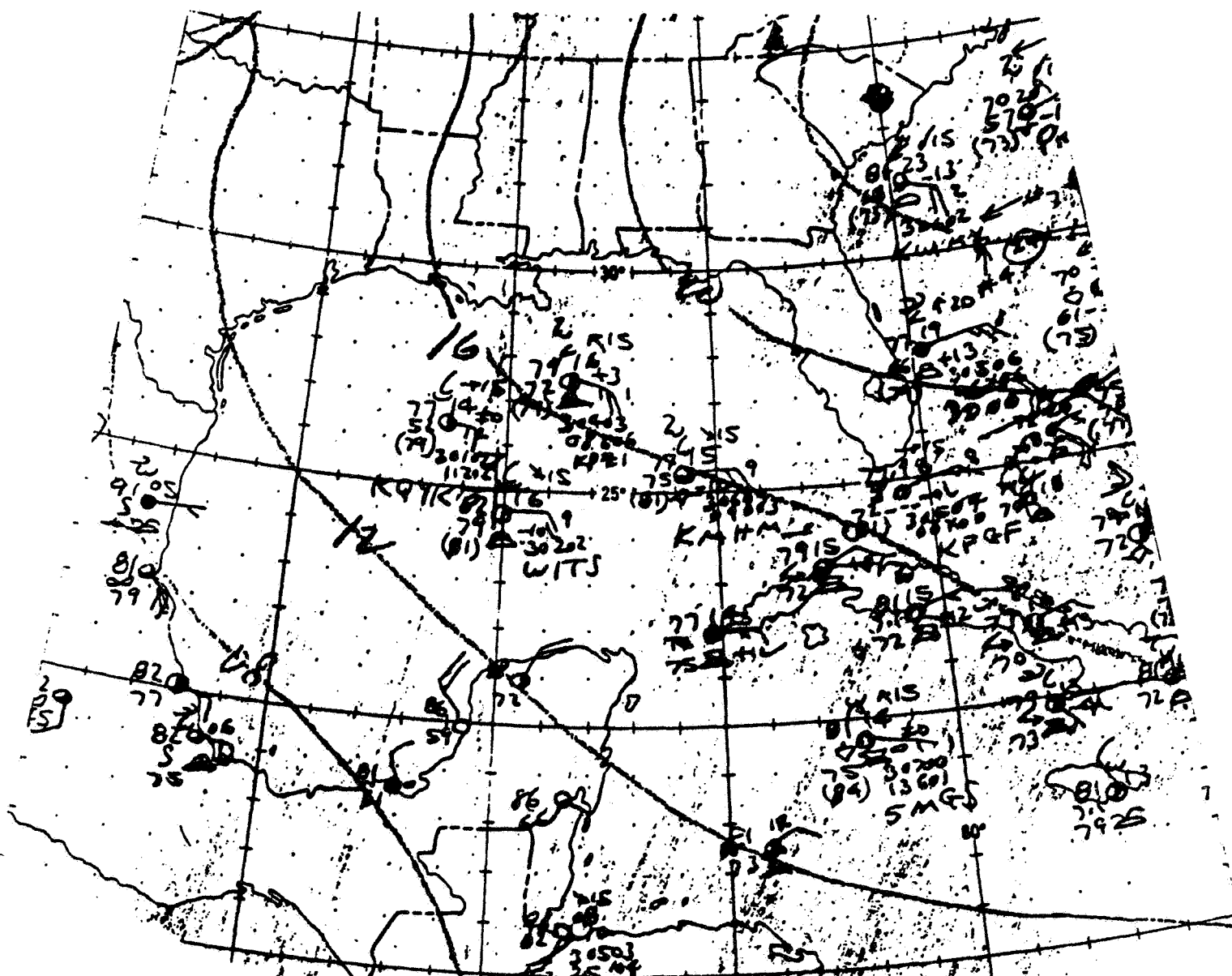


FIGURE 10.

NATIONAL WEATHER SERVICE  
 NORTHERN HEMISPHERE SURFACE CHART (NMC)  
 0000Z MAY 7, 1972

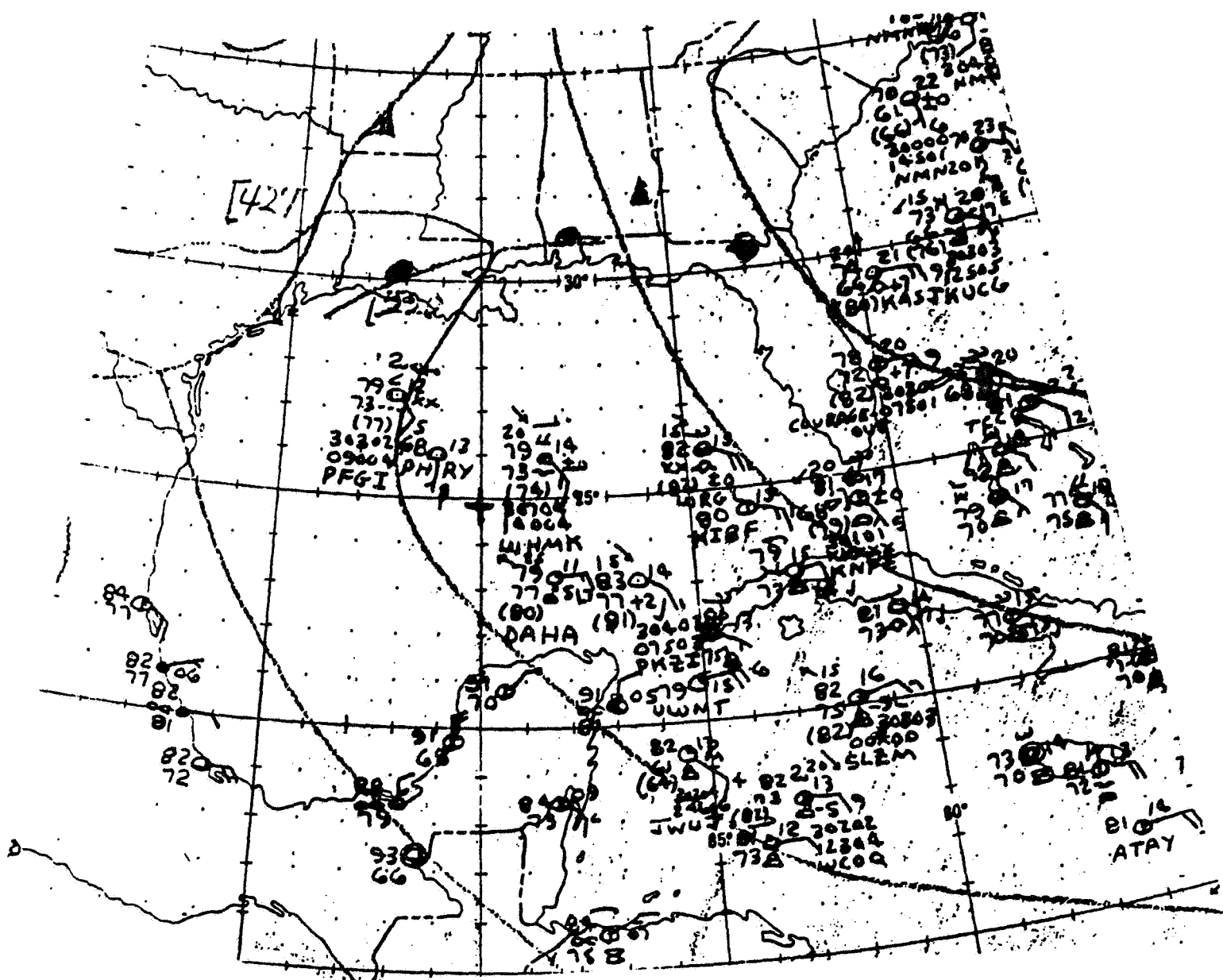


FIGURE 11.

NATIONAL WEATHER SERVICE  
 NORTHERN HEMISPHERE SURFACE CHART (NMC)  
 0000Z MAY 8, 1972

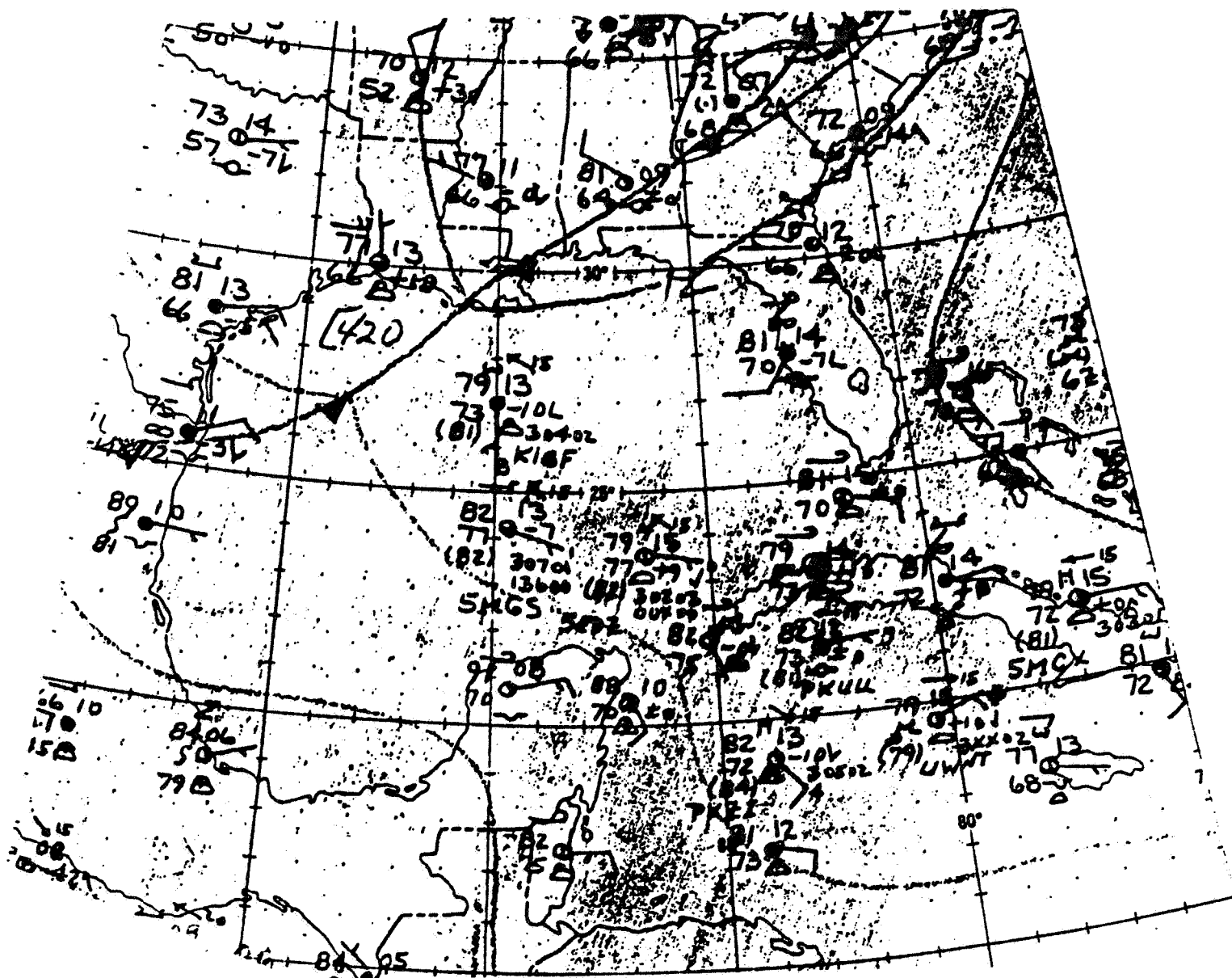


FIGURE 12.

NATIONAL WEATHER SERVICE  
NORTHERN HEMISPHERE SURFACE CHART (NMC)  
0000Z MAY 9, 1972

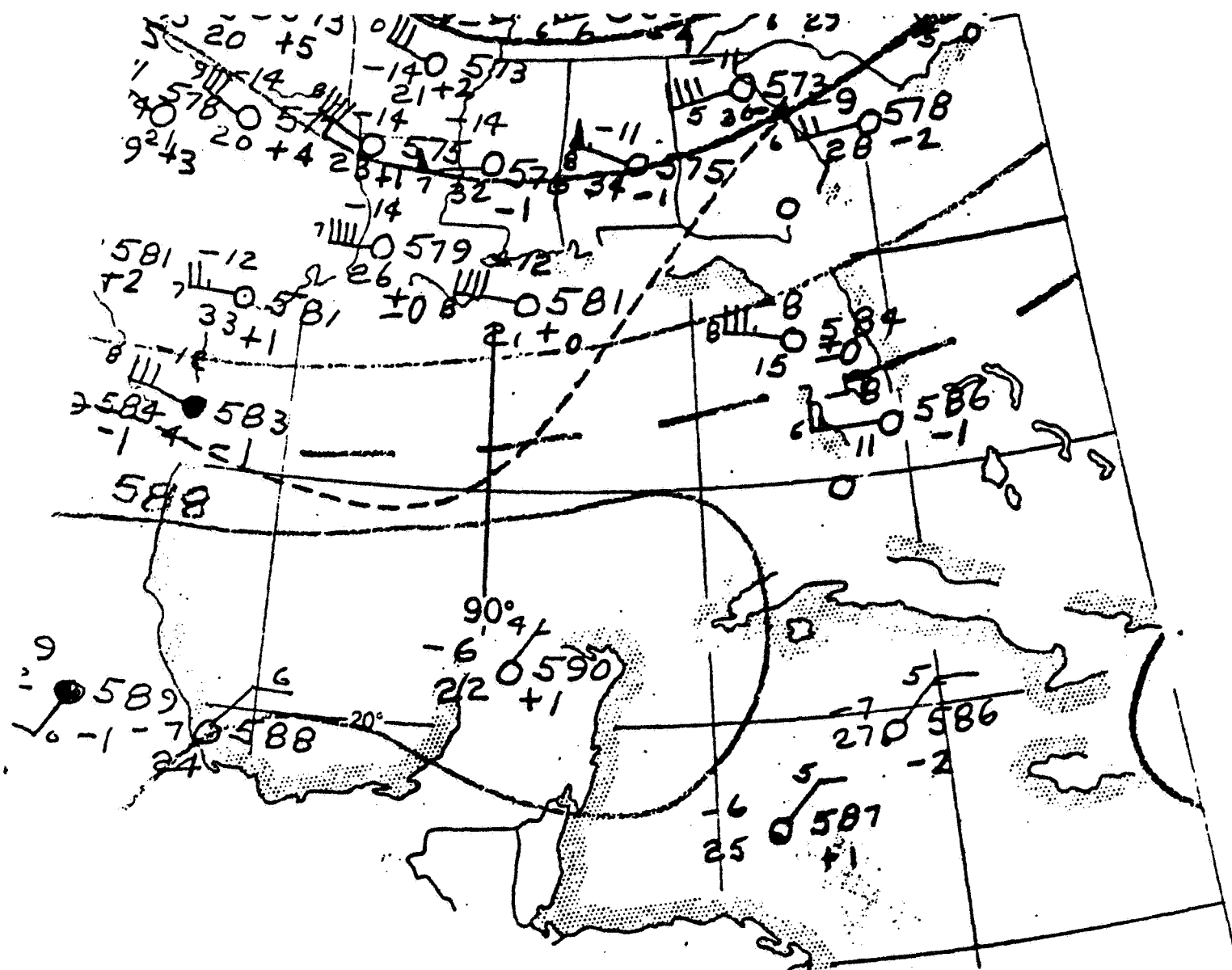


FIGURE 13. NATIONAL WEATHER SERVICE  
(NMC) 500 MB ANALYSIS  
0000Z MAY 9, 1972

Table 9. A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 9 May 1972.

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1011.5	26.1	22.8	.0
1000.0	24.1	19.8	101.0
850.0	15.5	99.0	1499.0
817.0	16.3	99.0	1815.8
803.0	16.5	99.0	1954.1
700.0	8.4	-13.3	3633.0
556.0	-6.5	-16.2	5475.7
500.0	-12.2	-33.6	5807.0
474.0	-14.5	-28.7	6234.2
424.0	-19.7	-22.5	7126.1
400.0	-21.7	-31.2	7484.0
342.0	-30.9	-39.9	8737.4
300.0	-36.3	-52.3	9785.7
200.0	-59.5	99.0	13029.7
175.0	-65.3	99.0	14098.1
169.0	-61.7	99.0	14377.2
150.0	-59.5	99.0	15331.4
123.0	-67.5	99.0	16919.2
113.0	-66.7	99.0	17597.6
100.0	-63.1	99.0	18575.4

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Table 10. A listing of the Key West, Florida, radiosonde,  
0000 GMT 9 May 1972.

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1014.2	27.8	23.0	.0
1000.0	25.8	20.8	127.0
966.0	23.7	19.1	403.8
952.0	22.9	14.4	520.6
850.0	16.2	7.7	1534.0
827.0	15.6	7.5	1753.5
700.0	8.3	-3.2	3165.0
667.0	7.1	-18.6	3551.4
662.0	6.8	-.6	3611.6
640.0	5.3	-9.6	3882.0
588.0	.5	-6.8	4560.0
551.0	-2.5	-11.2	5080.0
538.0	-2.7	-24.4	5271.0
509.0	-5.1	-31.0	5714.3
500.0	-5.7	-20.1	5873.0
426.0	-13.7	99.0	7154.5
400.0	.0	-41.3	7658.3
400.0	-17.2	-41.5	7586.0
275.0	-39.5	-63.5	10583.8
169.0	-65.1	99.0	14479.2

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TABLE 11. A listing of the Tampa, Florida, radiosonde, 0000 GMT  
9 May 1972.

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PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1013.3	26.6	21.1	0.
1000.0	24.9	19.8	125.
960.0	21.4	17.2	482.
909.0	19.9	14.1	955.
872.0	16.9	14.1	1313.
850.0	15.0	12.3	1530.
834.0	13.8	10.8	1691.
814.0	14.2	7.0	1897.
744.0	8.7	5.0	2650.
716.0	7.6	0.0	2967.
700.0	6.3	.2	3153.
686.0	5.3	-.1	3319.
673.0	5.8	-4.7	3475.
606.0	-.9	-6.9	4324.
587.0	-1.7	-19.2	4578.
516.0	-7.7	-19.9	5592.
500.0	-8.1	-23.2	5837.
457.0	-13.8	-20.3	6529.
420.0	-17.4	-27.3	7166.
400.0	-20.7	-35.4	7529.
321.0	-32.0	-40.1	9120.
300.0	-36.0	-44.5	9594.
281.0	-40.1	-44.8	10045.
250.0	-46.0	99.0	10833.
200.0	-58.2	99.0	12278.
171.0	-65.9	99.0	13246.
157.0	-69.2	99.0	13761.
150.0	-67.1	99.0	14035.
132.0	-69.4	99.0	14802.
125.0	-69.0	99.0	15128.
120.0	-67.3	99.0	15373.
100.0	-71.1	99.0	16462.

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Table 12. A listing of the Guantanamo Bay, Cuba, radiosonde,  
0000 GMT 9 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1009.0	27.2	21.4	.0
1000.0	25.2	20.2	112.0
969.0	22.5	19.6	364.0
930.0	21.1	13.1	692.6
863.0	15.8	10.0	1290.8
850.0	14.8	13.9	1516.0
775.0	10.5	7.2	2255.1
751.0	9.6	-5.2	2506.7
726.0	9.8	-12.0	2777.6
714.0	8.9	-5.4	2911.0
700.0	9.0	-20.9	3138.0
588.0	1.1	-27.2	4533.0
545.0	--3.4	-14.5	5140.6
528.0	-5.5	-28.0	5394.1
500.0	-7.2	-33.7	5841.0
400.0	-19.1	-45.2	7541.0
300.0	-36.1	-63.1	9842.7
283.0	-39.7	-65.7	10309.4
250.0	-46.3	99.0	11301.4
200.0	-56.3	99.0	13086.7
150.0	-68.1	99.0	15388.4
125.0	-71.3	99.0	16847.1



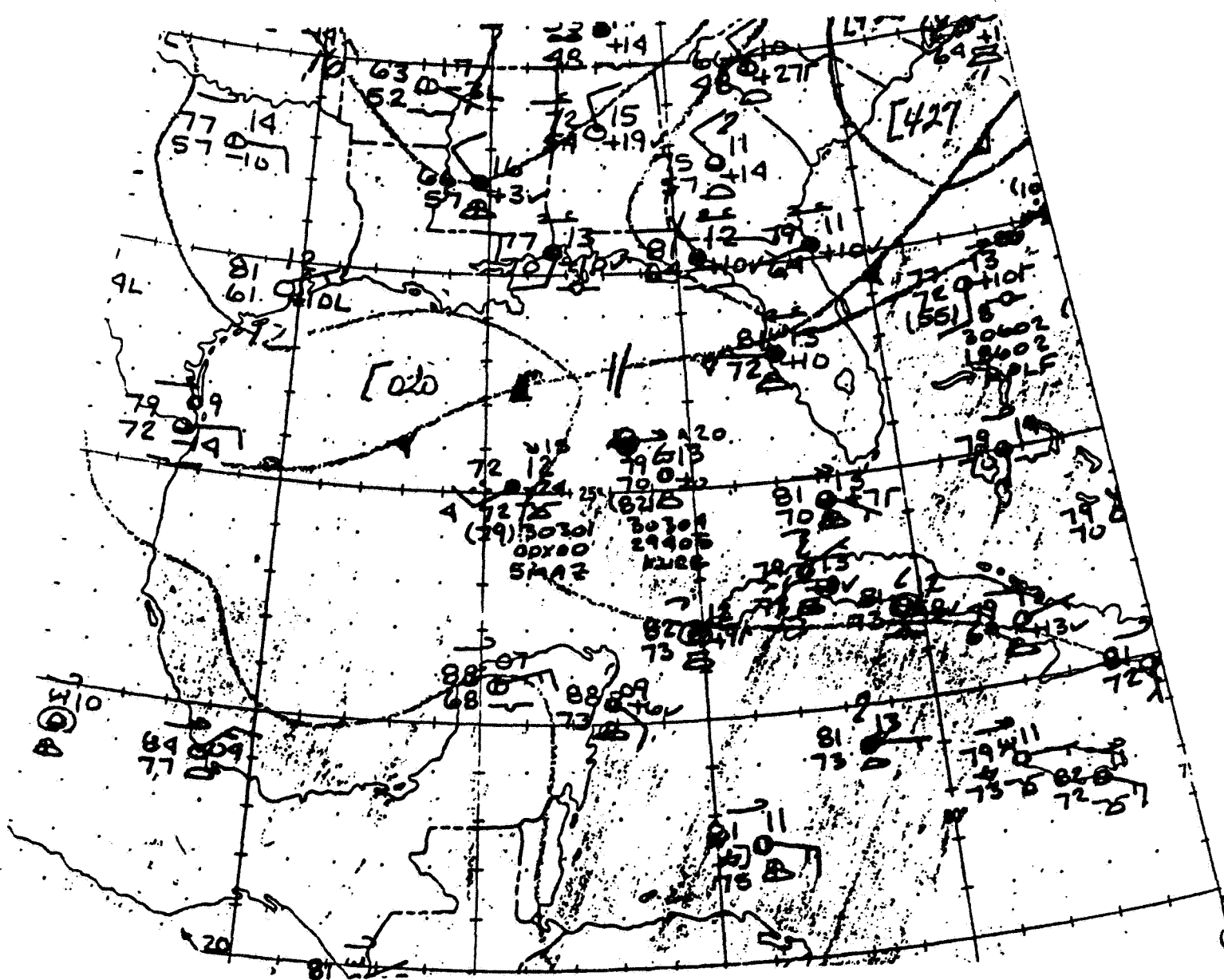


FIGURE 14. NATIONAL WEATHER SERVICE  
NORTHERN HEMISPHERE SURFACE CHART (NMC)  
0000Z MAY 10, 1972

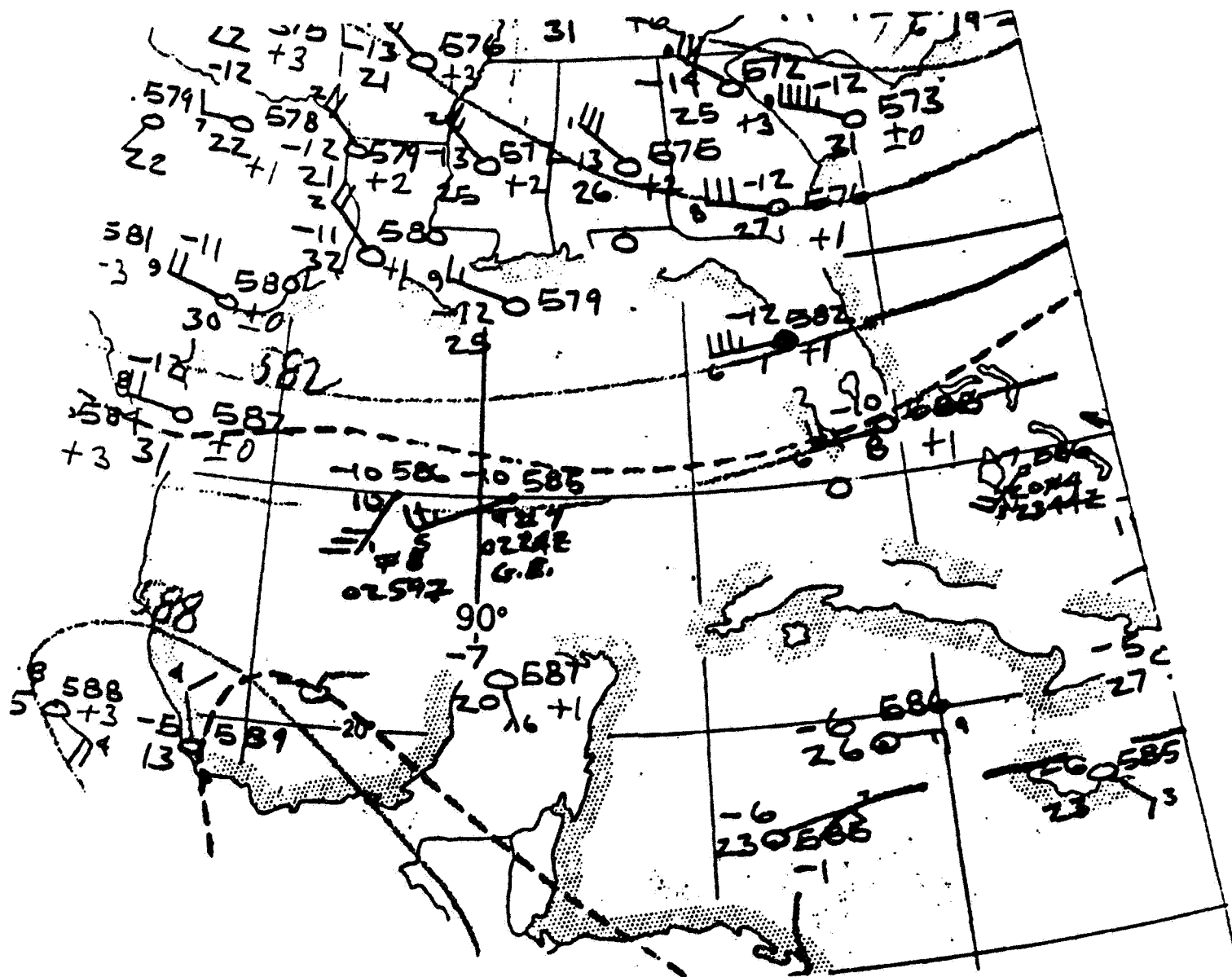


FIGURE 15. NATIONAL WEATHER SERVICE  
(NMC) 500 MB ANALYSIS  
0000Z MAY 10, 1972

Table 13. A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 10 May 1972

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1013.1	24.9	20.1	.0
1000.0	23.5	18.4	115.0
927.0	18.3	16.7	721.5
863.0	13.9	10.7	1293.8
850.0	13.2	6.6	1509.0
839.0	14.4	-1.3	1613.2
700.0	6.0	-13.1	3126.0
647.0	.0	-9.7	3755.9
637.0	.6	-24.7	3880.6
500.0	-11.9	-36.9	5787.0
400.0	-23.9	-45.3	7458.0
373.0	-27.7	-40.7	8017.1
352.0	-30.5	-33.4	8480.8
331.0	-34.1	-36.6	8972.9
300.0	-39.1	-49.1	9759.7
200.0	-59.1	99.0	13003.7
176.0	-64.5	99.0	14026.5
118.0	-66.1	99.0	17225.2
109.0	-70.6	99.0	17860.0
100.0	-66.3	99.0	18549.4

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Table 14 . A listing of the Key West, Florida, radiosonde  
0000 GMT 10 May 1972.

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1012.0	27.8	21.6	.0
1000.0	25.5	20.2	111.0
952.0	21.8	20.4	504.6
850.0	18.1	8.7	1520.0
757.0	11.9	2.1	2447.1
726.0	11.3	-10.8	2781.6
720.0	10.5	- .6	2848.0
700.0	10.0	-5.1	3153.0
632.0	4.5	-7.2	3970.6
538.0	-5.5	-12.9	5259.0
523.0	-6.4	-19.7	5485.2
500.0	-9.0	-21.7	5853.0
430.0	-16.3	-34.0	7059.7
400.0	-21.2	-38.2	7543.0
300.0	-35.5	-48.5	9844.7
282.0	-39.5	-53.5	10339.7
200.0	-56.1	99.0	13088.7
150.0	-67.5	99.0	15390.4
134.0	-69.5	99.0	16292.9
116.0	-69.1	99.0	17447.0
105.0	-72.1	99.0	18244.1

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TABLE 15. A listing of the Tampa, Florida, radiosonde, 0000 GMT  
10 May 1972.

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PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1011.6	26.1	22.2	0.
1000.0	25.4	21.9	110.
955.0	21.8	19.9	514.
915.0	20.2	16.3	886.
850.0	16.1	12.5	1519.
804.0	12.9	10.5	1991.
782.0	12.2	6.3	2224.
724.0	9.4	-6.8	2867.
700.0	7.2	-5.8	3146.
640.0	1.7	-5.2	3876.
611.0	-1.4	-11.3	4248.
562.0	-5.5	-7.0	4909.
500.0	-11.5	-12.9	5817.
475.0	-14.5	-17.0	6209.
449.0	-14.7	-23.9	6636.
400.0	-21.4	-31.4	7499.
354.0	-28.3	-32.9	8388.
300.0	-37.7	-43.5	9553.
250.0	-46.9	99.0	10786.
211.0	-56.3	99.0	11886.
200.0	-58.5	99.0	12225.
160.0	-65.2	99.0	13606.
150.0	-64.0	99.0	14000.
117.0	-70.3	99.0	15499.
106.0	-66.2	99.0	16092.
100.0	-67.7	99.0	16444.

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Table 16. A listing of the Guantanamo Bay, Cuba, radiosonde  
0000 GMT 10 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1007.3	27.9	22.6	.0
1000.0	26.3	21.9	97.0
959.0	23.1	21.5	431.9
953.0	23.1	18.8	482.2
892.0	20.2	10.6	1011.4
850.0	17.7	10.3	1511.0
808.0	14.0	7.3	1916.4
797.0	12.7	10.9	2026.1
747.0	10.4	5.2	2544.5
737.0	9.8	6.7	2652.3
733.0	9.7	3.6	2695.8
730.0	9.7	5.7	2728.7
700.0	9.4	-20.6	3064.4
673.0	8.7	-21.2	3379.1
638.0	5.9	-23.4	3806.4
623.0	4.4	-21.6	3996.8
571.0	-1.2	-27.9	4694.1
529.0	-2.9	-30.3	5305.4
520.0	-1.8	-29.4	5442.6
500.0	-4.5	-31.5	5853.0
400.0	-20.1	-46.1	7638.3
300.0	-34.7	-59.7	9940.0
200.0	-44.9	99.0	13184.0
150.0	-56.1	99.0	15485.7

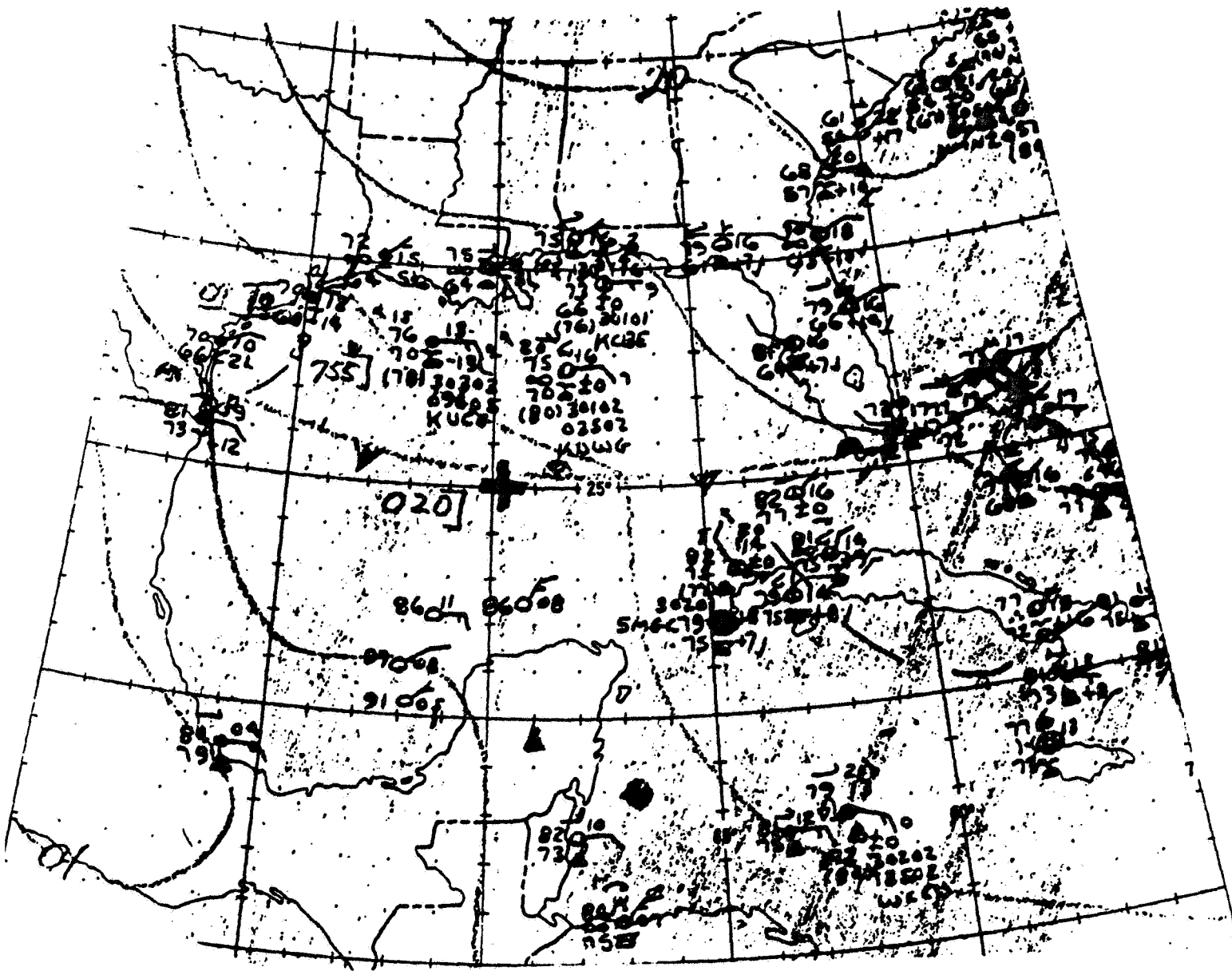


FIGURE 16.

NATIONAL WEATHER SERVICE  
 NORTHERN HEMISPHERE SURFACE CHART (NMC)  
 0000Z MAY 11, 1972

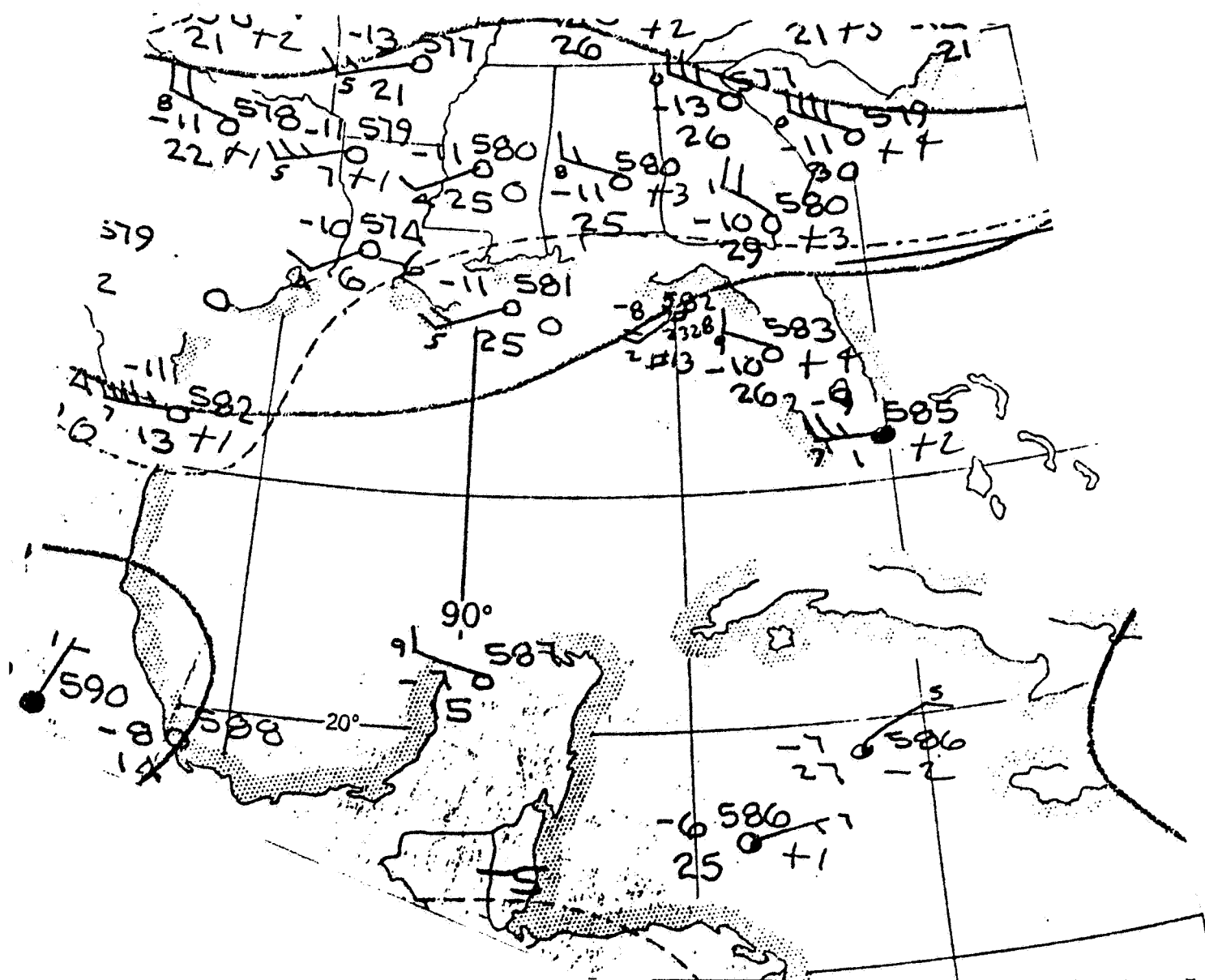


FIGURE 17.

NATIONAL WEATHER SERVICE  
 (NMC) 500 MB ANALYSIS  
 0000Z MAY 11, 1972



Table 17 . A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 11 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1015.7	22.3	19.4	.0
1000.0	20.6	18.9	137.0
962.0	17.9	16.8	447.0
936.0	17.9	13.4	666.2
870.0	13.6	9.3	1251.2
850.0	13.6	-2.4	1526.0
819.0	13.4	-11.9	1823.2
770.0	10.5	-16.7	2316.8
723.0	6.5	-5.2	2820.7
700.0	4.6	.7	3142.0
669.0	2.0	-23.6	3504.4
638.0	2.0	-23.6	3884.0
556.0	-4.6	99.0	4984.7
500.0	-10.6	-35.5	5814.0
400.0	-22.7	-42.2	7491.0
350.0	-29.1	-31.1	8559.4
316.0	-34.1	-35.8	9377.0
310.0	-35.3	-42.3	9530.3
300.0	-37.5	-44.5	9792.7
200.0	-48.3	99.0	13036.7
150.0	-60.1	99.0	15338.4
100.0	-69.1	99.0	18582.4

Table 18. A listing of the Key West, Florida, radiosonde,  
0000 GMT 11 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1014.0	28.1	22.3	.0
1000.0	26.0	21.6	128.0
946.0	21.1	20.4	572.1
904.0	20.1	12.1	935.5
879.0	19.4	7.5	1159.9
850.0	17.8	7.5	1536.0
792.0	13.6	5.0	2101.5
718.0	7.9	4.8	2886.3
700.0	7.6	.0	3164.0
565.0	-2.6	-13.3	4878.2
520.0	-7.1	-13.4	5542.2
500.0	-8.7	-17.7	5852.0
468.0	-12.4	-23.2	6381.2
465.0	-12.4	-28.3	6432.6
459.0	-12.5	-22.5	6536.5
424.0	-14.9	-37.2	7171.1
400.0	-18.1	-37.2	7637.3
300.0	-33.7	-47.7	9939.0
273.0	-39.9	-47.9	10693.6
200.0	-55.7	99.0	13183.0
163.0	-62.7	99.0	14819.7
100.0	-73.1	99.0	18728.8

TABLE 19. A listing of the Tampa, Florida, radiosonde, 0000 GMT  
11 May 1972.

PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1013.6	28.0	17.6	0.
1000.0	25.9	16.2	128.
946.0	21.5	14.2	614.
850.0	15.7	7.8	1533.
769.0	11.1	-13.4	2376.
705.0	4.9	-5.5	3093.
700.0	5.2	-15.7	3151.
569.0	-2.1	-31.4	4819.
500.0	-10.0	-36.2	5830.
400.0	-21.8	-45.0	7512.
351.0	-29.8	-50.1	8459.
300.0	-37.6	-55.4	9560.
267.0	-44.3	99.0	10353.
250.0	-48.6	99.0	10790.

Table 20. A listing of the Guantanamo Bay, Cuba, radiosonde,  
0000 GMT 11 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1009.3	28.2	23.1	.0
1000.0	25.5	20.3	114.0
959.0	24.1	16.4	448.9
850.0	16.9	9.6	1527.0
740.0	8.6	5.7	2635.8
700.0	7.0	-.5	3152.0
683.0	5.6	-2.8	3348.7
663.0	6.4	-23.1	3586.5
573.0	-2.4	-27.1	4753.7
563.0	-3.5	-16.8	4894.6
546.0	-3.6	-17.6	5139.9
543.0	-4.2	-12.6	5184.0
530.0	-5.1	-26.4	5377.8
500.0	-8.6	-31.4	5844.0
400.0	-19.3	-45.3	7537.0
300.0	-34.1	-59.1	9610.0
272.0	-39.7	-65.7	10393.9
200.0	-44.3	99.0	12854.0
150.0	-70.5	99.0	15155.7
100.0	-75.7	99.0	18399.8

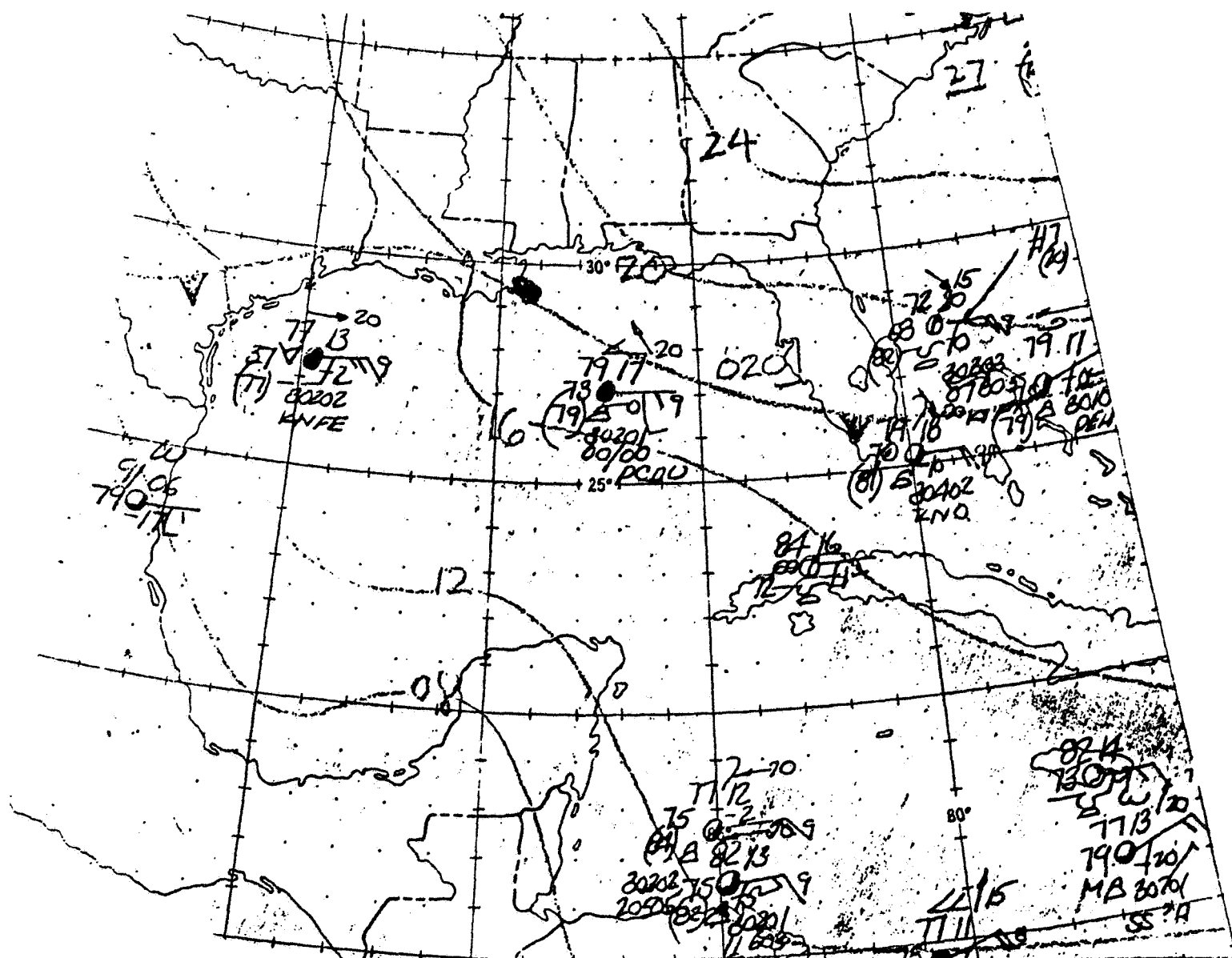


FIGURE 18.

NATIONAL WEATHER SERVICE  
NORTHERN HEMISPHERE SURFACE CHART (NMC)  
0000Z MAY 12, 1972

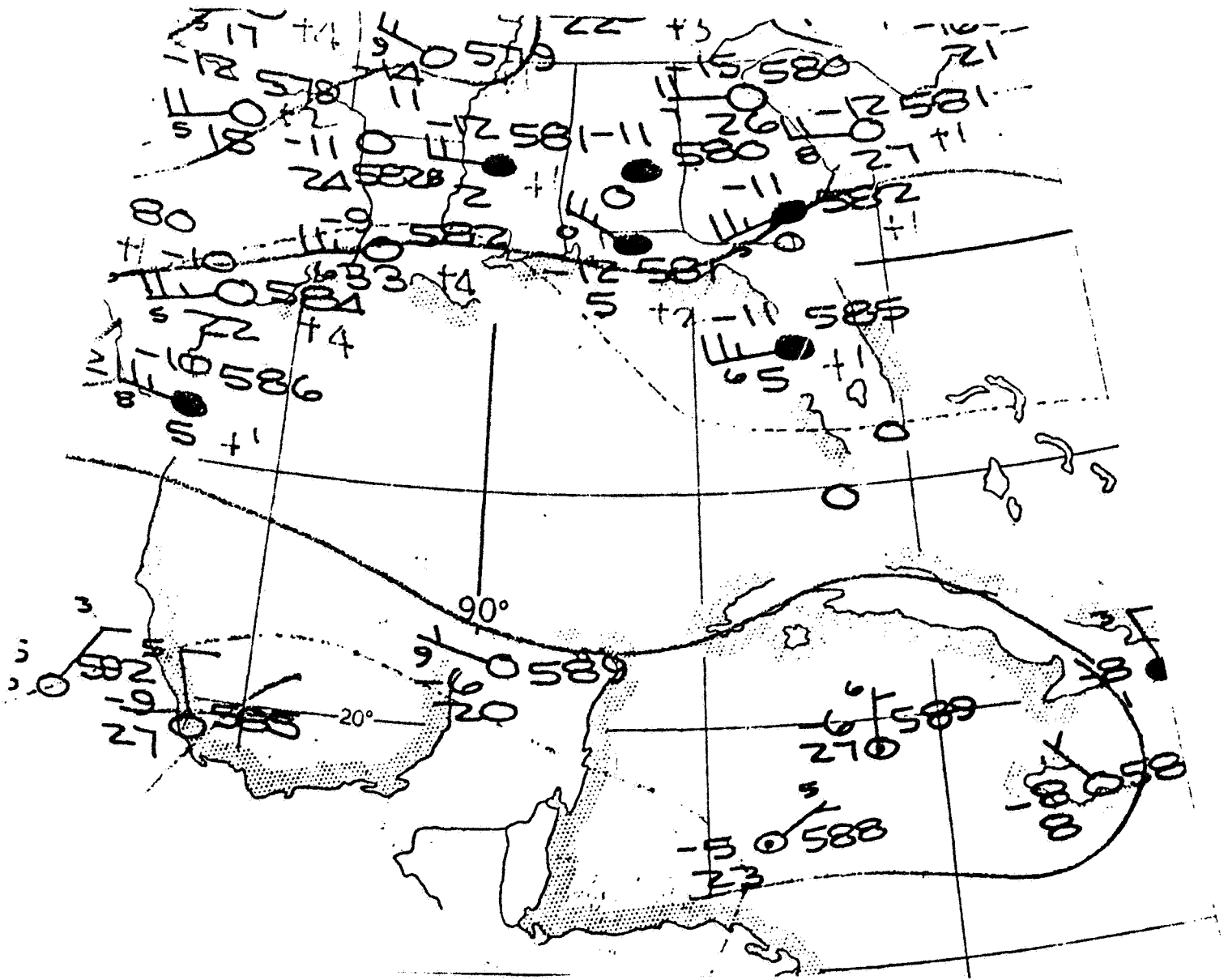


FIGURE 19.

NATIONAL WEATHER SERVICE  
 (NMC) 500 MB ANALYSIS  
 0000Z MAY 12, 1972

Table 21. A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 12 May 1972.

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1016.0	22.1	20.9	.0
1000.0	21.1	19.9	141.0
850.0	13.9	12.3	1535.0
700.0	4.0	1.2	3146.0
645.0	.0	-1.6	3800.7
606.0	-1.3	-4.1	4299.7
548.0	-6.1	-8.0	5104.6
500.0	-11.4	-16.0	5812.0
300.0	-37.1	-41.9	9797.7
220.0	-54.7	99.0	12279.2
144.0	-72.1	99.0	15670.0
120.0	-68.3	99.0	17128.7
104.0	-71.3	99.0	18273.7
100.0	-68.3	99.0	18587.4

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Table 22. A listing of the Key West, Florida, radiosonde,  
0000 GMT 12 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1015.0	28.3	21.3	.0
1000.0	25.0	20.0	142.0
972.0	23.0	20.3	369.2
950.0	23.4	11.4	552.4
850.0	17.5	8.1	1551.0
752.0	9.9	3.9	2531.1
726.0	9.3	-4.2	2812.6
700.0	7.8	-5.6	3178.0
637.0	3.5	-1.0	3932.6
585.0	-1.7	-8.9	4613.9
564.0	-2.9	-15.3	4906.4
531.0	-5.4	-15.8	5388.8
500.0	-7.2	-20.8	5870.0
472.0	-10.4	-26.2	6331.1
400.0	-21.4	-34.0	7563.0
384.0	-21.9	-38.9	7889.6
279.0	-39.7	-54.7	10445.3
200.0	-57.9	99.0	13108.7
162.0	-66.9	99.0	14794.7
150.0	-66.7	99.0	15410.4
106.0	-73.3	99.0	18188.3



TABLE 23 . A listing of the Tampa, Florida, radiosonde, 0000 GMT  
12 May 1972.

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PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1016.7	29.3	18.4	0.
1000.0	27.0	17.3	155.
882.0	17.4	15.3	1250.
850.0	15.4	12.7	1565.
746.0	7.1	2.9	2658.
700.0	4.3	2.3	3180.
682.0	3.1	.9	3392.
637.0	1.8	-27.3	3944.
605.0	-1.6	-6.4	4357.
563.0	-4.8	-13.0	4927.
531.0	-7.9	-11.3	5385.
508.0	-10.7	-13.7	5728.
500.0	-11.1	-15.0	5850.
487.0	-11.7	-23.0	6052.
457.0	-14.0	-27.2	6538.
400.0	-22.3	-43.6	7533.
357.0	-27.7	-46.2	8360.
325.0	-32.8	-38.8	9028.
300.0	-36.7	-45.6	9587.
282.0	-39.7	-49.9	10013.
250.0	-46.1	99.0	10825.
200.0	-58.4	99.0	12269.
158.0	-68.1	99.0	13718.
150.0	-68.3	99.0	14030.
143.0	-70.7	99.0	14315.
134.0	-67.0	99.0	14704.
100.0	-70.5	99.0	16456.

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Table 24. A listing of the Guantanamo Bay, Cuba, radiosonde,  
0000 GMT 12 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1011.0	25.1	21.0	.0
1000.0	24.5	20.6	128.0
975.0	24.4	20.7	330.6
950.0	22.5	22.1	538.4
865.0	17.6	16.5	1288.3
850.0	16.9	11.4	1541.0
830.0	15.1	14.2	1731.5
770.0	11.5	10.9	2331.8
734.0	9.5	5.6	2714.9
724.0	9.0	7.9	2824.7
700.0	8.1	3.2	3170.0
679.0	7.0	-1.2	3413.7
602.0	1.3	-4.4	4376.7
553.0	-3.2	-3.9	5056.0
500.0	-7.5	-8.7	5871.0
449.0	-12.7	-16.8	6731.8
444.0	-13.1	-21.2	6821.4
408.0	-17.7	-26.4	7497.9
400.0	-18.5	-44.8	7575.0
353.0	-26.3	-36.3	8575.1
345.0	-26.5	99.0	8758.5
300.0	-34.1	-40.1	9876.7
272.0	-39.9	-45.9	10660.6
250.0	-43.3	99.0	11335.4
200.0	-43.3	99.0	13120.7
150.0	-56.3	99.0	15422.4
135.0	-69.9	99.0	16265.4
100.0	-64.9	99.0	18666.4



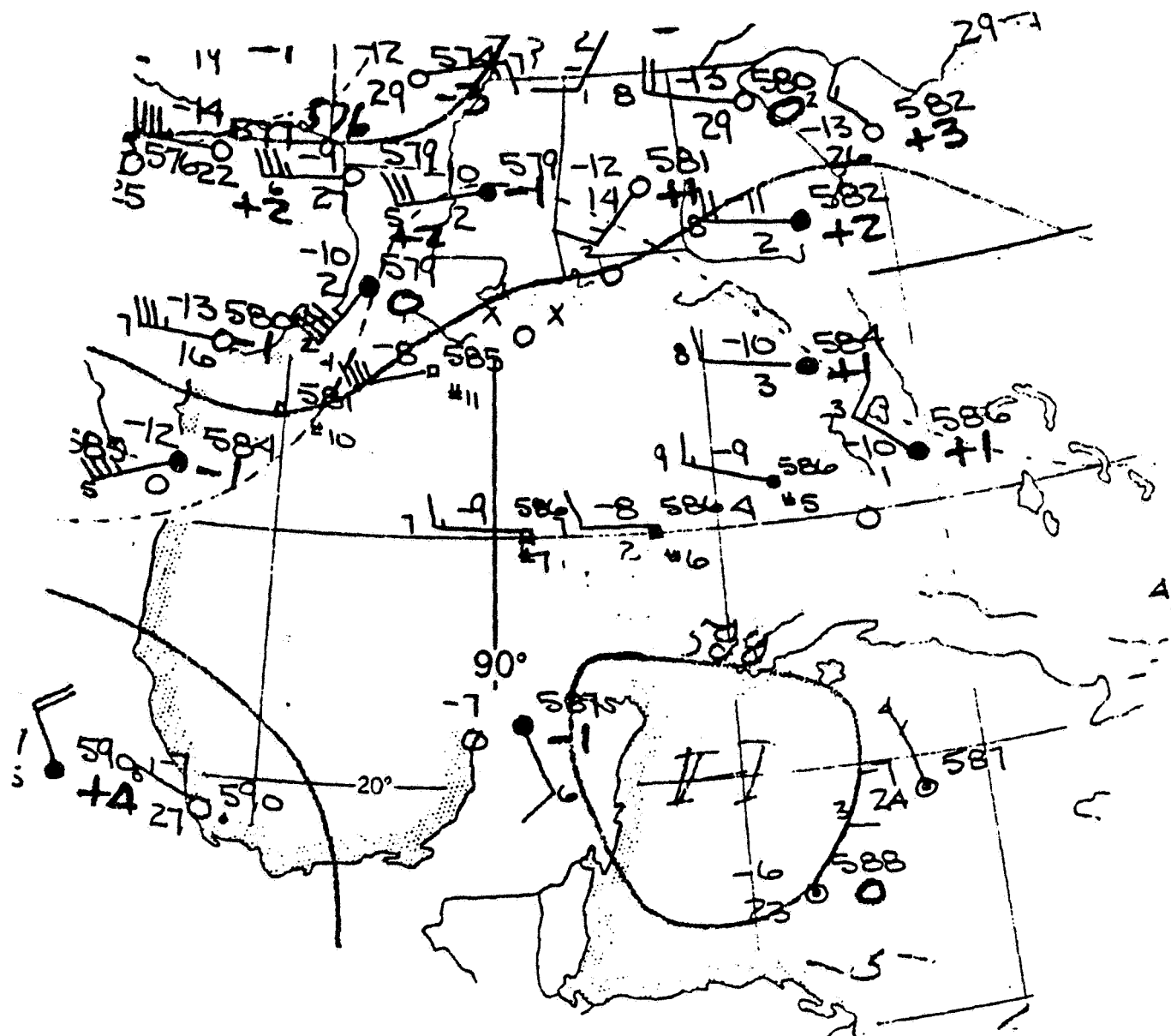


FIGURE 21.

NATIONAL WEATHER SERVICE  
(NMC) 500 MB ANALYSIS  
0000Z MAY 13, 1972

Table 25. A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 13 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1013.5	21.4	19.0	.0
1000.0	21.0	17.8	113.0
983.0	20.6	16.6	250.2
931.0	18.0	16.8	685.0
850.0	14.3	12.6	1413.3
700.0	4.6	3.0	2966.7
850.0	13.1	12.6	1513.0
700.0	4.6	3.0	3128.0

Table 26. A listing of the Key West, Florida, radiosonde,  
0000 GMT 13 May 1972.

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PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1015.0	27.5	19.8	.0
1000.0	25.3	20.4	138.0
949.0	21.0	20.4	556.8
901.0	18.4	12.8	972.1
850.0	16.2	10.4	1543.0
713.0	7.7	-7.1	2926.8
700.0	6.3	-2.3	3167.0
692.0	5.5	.9	3259.0
668.0	4.4	-4.1	3541.4
594.0	-2.8	-8.4	4480.7
550.0	-6.3	-27.9	5096.5
544.0	-6.8	-21.5	5184.2
535.0	-6.0	-32.6	5317.7
514.0	-6.3	99.0	5638.1
500.0	-7.8	-34.1	5845.0
419.0	-18.3	-34.3	7259.0
412.0	-17.9	99.0	7393.8
400.0	-19.4	-43.3	7541.0
300.0	-36.5	-59.5	9842.7
282.0	-40.1	-62.1	10337.7
200.0	-47.1	99.0	13086.7
150.0	-58.9	99.0	15388.4
122.0	-71.7	99.0	17041.5
100.0	-72.1	99.0	18632.4

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TABLE 27 . A listing of the Tampa, Florida, radiosonde, 0000 GMT  
13 May 1972.

PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1017.0	25.8	18.1	0.
1000.0	25.0	17.7	157.
928.0	18.5	15.9	807.
850.0	14.2	11.7	1557.
700.0	4.7	2.8	3172.
643.0	1.3	-1.2	3862.
587.0	-3.6	-9.6	4589.
579.0	-4.2	-6.9	4698.
564.0	-5.4	-11.6	4905.
548.0	-5.9	-10.4	5131.
538.0	-7.2	-15.6	5275.
512.0	-9.6	-11.0	5659.
500.0	-10.3	-12.9	5843.
469.0	-13.4	-13.4	6333.
421.0	-18.4	-26.9	7148.
400.0	-20.9	-26.8	7528.
388.0	-22.8	-26.4	7752.
365.0	-26.0	-49.0	8198.
319.0	-33.9	-47.3	9158.
300.0	-36.8	-42.5	9585.
281.0	-40.0	48.8	10035.
250.0	-46.7	99.0	10822.
200.0	-58.4	99.0	12264.
171.0	-66.5	99.0	13231.
155.0	-68.8	99.0	13822.
150.0	-67.7	99.0	14019.
144.0	-66.9	99.0	14265.
123.0	-71.0	99.0	15208.
119.0	-68.8	99.0	15404.
100.0	-71.7	99.0	16438.

Table 28 . A listing of the Guantanamo Bay, Cuba, radiosonde,  
0000 GMT 13 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1009.8	27.3	21.8	.0
1000.0	25.4	21.5	119.0
910.0	19.2	19.0	873.6
850.0	16.0	15.5	1528.0
733.0	8.7	8.6	2712.8
711.0	6.4	5.1	2956.7
700.0	6.0	- .8	3153.0
682.0	4.4	-5.2	3361.4
673.0	4.7	3.3	3467.7
622.0	1.8	-4.7	4098.2
544.0	-4.5	-7.0	5170.2
527.0	-5.1	-12.3	5424.3
500.0	-6.8	-24.0	5848.0
480.0	-10.5	-28.2	6174.6
459.0	-14.2	-22.2	6532.5
434.0	-17.0	-19.7	6980.6
400.0	-19.6	-22.0	7540.0
300.0	-34.5	-38.7	9612.0
271.0	-40.0	-45.3	10425.4
250.0	-43.6	99.0	10861.0
200.0	-51.5	99.0	12314.0
183.0	-63.0	99.0	13024.7
177.0	-61.5	99.0	13291.4
150.0	-68.2	99.0	14085.0
127.0	-73.9	99.0	15416.7
115.0	-74.3	99.0	15648.0



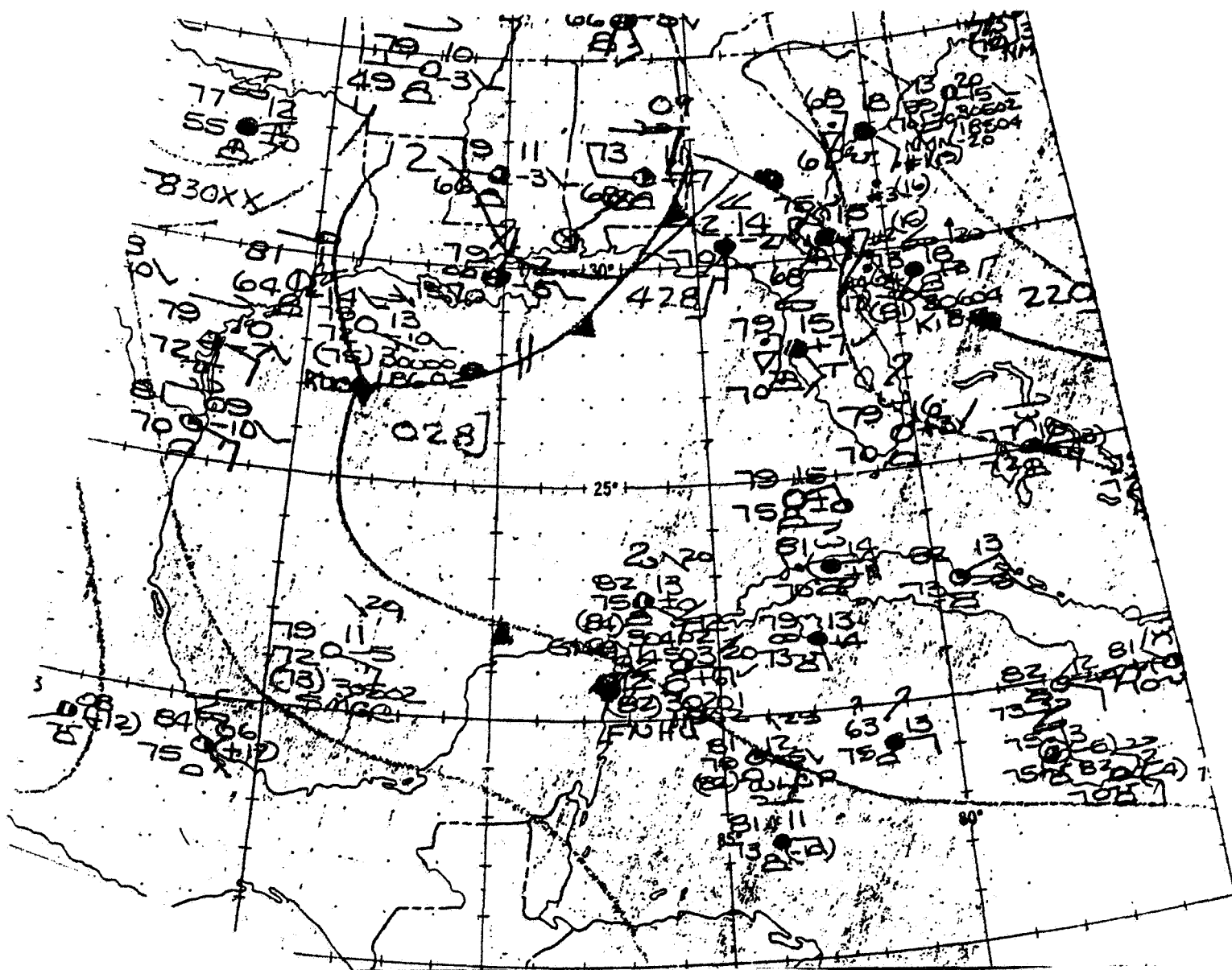


FIGURE 22.

NATIONAL WEATHER SERVICE  
 NORTHERN HEMISPHERE SURFACE CHART (NMC)  
 0000Z MAY 14, 1972

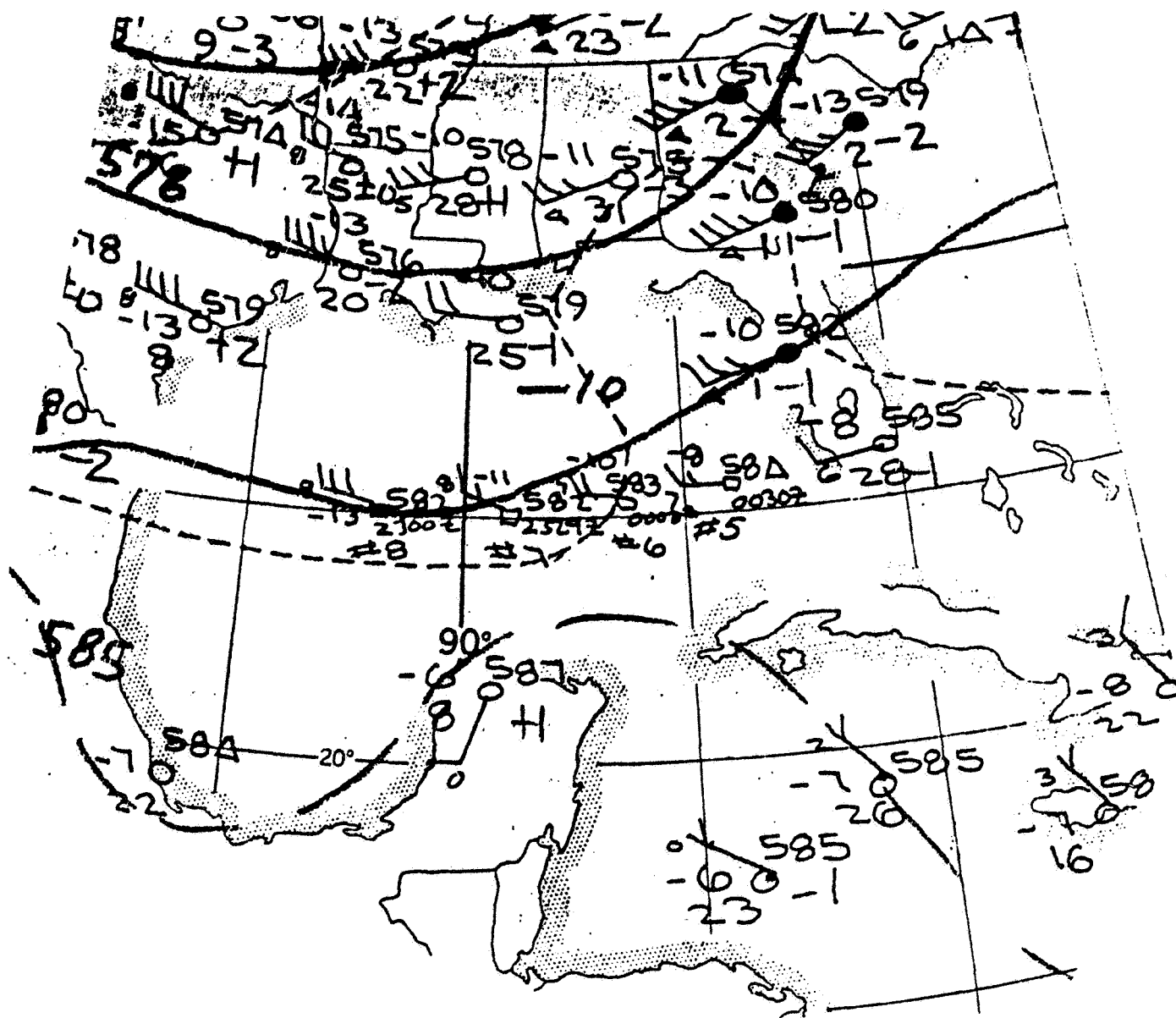


FIGURE 23. NATIONAL WEATHER SERVICE  
(NMC) 500 MB ANALYSIS  
0000Z May 14, 1972

Table 29. A listing of the Boothville, Louisiana, radiosonde,  
0000 GMT 14 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1012.9	25.5	20.3	.0
1000.0	23.1	18.2	113.0
934.0	18.3	16.3	659.3
911.0	19.0	5.8	858.8
850.0	16.4	2.4	1512.0
762.0	11.0	-13.1	2386.4
700.0	5.1	-15.5	3131.0
662.0	2.5	-20.1	3577.6
537.0	-8.4	-18.8	5251.9
500.0	-10.1	-35.1	5793.0
437.0	-16.7	-27.4	6870.5
435.0	-15.9	-39.7	6907.2
400.0	-20.4	-40.4	7481.0
378.0	-23.1	-40.1	7933.6
366.0	-25.3	-33.3	8191.7
359.0	-26.5	-29.9	8346.2
330.0	-31.5	-48.5	9020.1
300.0	-36.7	-53.7	9782.7
283.0	-40.1	-56.1	10249.4
200.0	-47.1	99.0	13026.7
150.0	-59.1	99.0	15328.4
100.0	-66.3	99.0	18572.4

Table 30. A listing of the Key West, Florida, radiosonde,  
0000 GMT 14 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1014.0	27.8	21.3	.0
1000.0	26.5	22.0	126.0
965.0	23.4	21.8	411.0
908.0	19.8	14.8	898.2
850.0	16.2	11.4	1536.0
817.0	14.9	10.5	1852.8
700.0	7.8	-.2	3166.0
632.0	2.6	-18.2	3983.6
600.0	1.6	-19.0	4399.3
570.0	-1.8	-14.0	4809.7
560.0	-1.9	-18.9	4951.3
500.0	-7.5	-23.3	5863.0
436.0	-13.7	-28.3	6958.8
400.0	-19.2	-33.9	7565.0
300.0	-32.7	-45.7	9866.7
267.0	-39.1	-51.1	10799.0
200.0	-43.1	99.0	13110.7
178.0	-55.1	99.0	14043.1
150.0	-55.1	99.0	15412.4
120.0	-73.5	99.0	17197.7
100.0	-68.7	99.0	18656.4

TABLE 31 . A listing of the Tampa, Florida, radiosonde, 0000 GMT  
14 May 1972.

PRESSURE (MILLIBARS)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (METERS)
1013.6	25.2	20.3	0.
1000.0	25.2	18.0	127.
889.0	17.2	14.0	1149.
873.0	17.2	12.0	1304.
850.0	15.0	11.7	1532.
778.0	10.8	3.5	2277.
728.0	8.2	1.1	2829.
700.0	4.9	.7	3152.
652.0	.4	.0	3727.
629.0	- .6	-1.0	4016.
500.0	-9.7	-10.8	5823.
475.0	-11.7	-15.8	6218.
448.0	-14.1	-16.6	6664.
400.0	-18.9	-25.4	7517.
364.0	-24.5	-32.1	8212.
345.0	-27.1	-31.3	8601.
300.0	-34.4	-38.5	9594.
272.0	-39.8	-45.1	10271.
250.0	-45.2	99.0	10841.
200.0	-59.0	99.0	12286.
167.0	-69.4	99.0	13389.
150.0	-69.4	99.0	14030.
131.0	-69.0	99.0	14839.
111.0	-73.6	99.0	15872.
100.0	-75.9	99.0	16426.

Table 32 . A listing of the Guantanamo Bay, Cuba, radiosonde,  
0000 GMT 14 May 1972.

PRESSURE (Millibars)	TEMPERATURE (°C)	DEW POINT (°C)	HEIGHT (Meters)
1008.8	27.2	20.2	.0
1000.0	26.1	19.9	110.0
947.0	23.6	16.3	545.7
873.0	17.4	15.7	1196.7
850.0	16.2	11.4	1524.0
814.0	12.9	12.7	1870.2
792.0	11.2	11.1	2089.5
758.0	9.7	5.5	2440.5
752.0	10.6	4.5	2504.1
737.0	10.2	-14.4	2665.3
700.0	8.3	-16.0	3149.0
588.0	-.5	-20.7	4544.0
551.0	-4.3	-13.9	5064.0
525.0	-5.3	-32.2	5450.7
500.0	-8.0	-30.2	5842.0
581.0	-10.9	-25.5	6152.0
468.0	-12.0	-37.5	6371.2
416.0	-18.6	-27.6	7313.5
409.0	-19.2	-38.2	7449.3
400.0	-20.5	-37.7	7533.0
364.0	-25.9	-38.9	8287.6
330.0	-30.7	-55.7	9072.1
300.0	-36.9	-48.9	9834.7
287.0	-39.3	-45.3	10189.1
250.0	-47.5	99.0	11293.4
200.0	-57.9	99.0	13078.7
150.0	-66.5	99.0	15380.4
104.0	-77.1	99.0	18310.7
100.0	-66.5	99.0	18624.4

## REFERENCES

- Boudreau, R.D., 1971: Eastern Gulf of Mexico Remote Sensing Study Experiment #1 (Nov. 1971), Part I: Surface Measurements. NASA Earth Resources Laboratory, Mississippi Test Facility, 14 pp.
- Boudreau, R.D., 1972: A radiation model for calculating atmospheric corrections to remotely sensed infrared measurements. NASA Earth Resources Laboratory, Mississippi Test Facility, 71 pp.
- Leipper, D.F., 1970: A sequence of current patterns in the Gulf of Mexico. J. Geophys. Res. , 75 (3), 637-657.